

METHODS AND COMPOSITIONS FOR INCREASING

ANTIBODY PRODUCTION

Reilly et al. Attorney Docket P1957R1

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1 GAATTCACT TCTCCATACT TTGGATAAGG AAATACAGAC ATGAAAATC TCATTGCTGA GTTGTATT AAGCTTGCCCC AAAAGAAGA AGAGTCGAAT
CTTAAGTGA AGGGTATGA AACCTATTC TTTATGCTG TACTTTAG AGTAACTGACT CAACAATAAA TTCAACGGG TTTCATCTCT TCTCAGCTTA

101 GAACTGTTG CGCAAGTGA AGCTTGGG AGTATCGTCA CTGGCATGCT TCGCAATGCT GGGCAATATC GGGCAATATG ACCAACAGGG GTTGTATT CAGGTAGG
CTTGACAC GCGTCATCT TCGAAACCTC TAATAGCTGAGT CACGTTACGA AGCCTTATAC CGCGTTTAC TGCGTGTGCC CAACTAACTA GTCCATCTCC

201 GGGCGCTGTA CGAGGTAAGG CCCGATGCCA GCAATTCTGA CGACGATAGC GAGTGTGC GEGATTAAGT AAAGAGTA TTGAGGATC CTCGTCAGTA
CCCGCACAT GCTCCATTIC GGCGTACCGT CCTAAGGACT CCTGTCTATGC CTCGACGAGC CGCTATGCA TTTCCTCAT AACTTCGAG GAGCAGTCAT

301 AAAAGTTAAT CTTTCAACA GCTGTATCAA AGTTGTACG GCCGAGACTT ATAGTCGCTT TGTTTTATT TTPTAATGTA TTGTTAATCTA GTACGGAGT
TTTTCATTA GAAAAGTTGT CGACGATTT TAACAGTGC CGGCTCTGAA TATCAGCAGA ACAAAAATAA AAAATTACAT AAACATTTGAT CATGCCCTCA

401 TCACCTAAA AGGGTATCTA GAAAGTAA GAAGAATATC GCAATTCTC TIGCATCTAT GTTGTGTTT TCTATGCTA CAAACGGTA CGCTGATTC
AGTGGATTT TCCCAGTAGT CTTAATACTT CTTCCTATAG CTTAATAGT CAAAGTAGATA CAAGGAAAAGATAACGAT GTTGGCAT GCGACTATAG

1 M K K N I A F L L A S M F V F S I A T N A Y A D I
Anti-Tissue Factor Light Chain

^STII Signal. Sequence TIR-1

501 CAGATGACCC AGTCCCCAG CTCCCTGTCC GCCTCTGTGG GCGTAGAGGT CACCATGCCA TGCGAGGCCA GTGCGGACAT CAAGAGCTAT CTGAACTGGT
GTCTACTGGG TCGGGGCTC GAGGGCAGG CGGAGACACC CGCTATCCA GTGGTAGCTGG ACGTCTCGGT CAGGGCTSTA GTTCTGGATA GACTTGACCA

26 Q M T Q S R S S L S A S V G D R V T I T C R A S R D I K S Y L N W Y

601 ATCACAGAA ACCAGGAAA GCTCCGAAAG TACTGATTTA CTATGCTACT ACTCTCGCTG AAGGAGTCCC TTCTCGCTTC TCTGGATCCG GTTCTGGAC
TAGTGTCTT TGSTCCCTT CGAGGCTTTC ATGACTAAAT GATACGATGA TCAGAGGAC TTCCCTCAGGG AAGAGCAGA AGACCTAGGC CAAGACCTCG

60 Q Q K P G K A P K V L I Y Y A T S L A E G V P S R F S G S G S G T

701 GGATTACAT CTGACCATCA GCAGTGTGCA GCGAGAACG TTGGCAACTT ATTACTGCTC TCAAGCAGGA GAGTCTCCAT GGACATTGG AGAGGTACCC
CCTTAATGTA GACTGGTAGT CGTCAGACGT CGGCTCTCTG AAGGGTGA TAATGACAGA AGTCTGGCTT CTCAAGGTTA CCTGTAACCC TGTCCTCATGG

.93 D Y T L T I S S L Q P E D F A T Y Y C L Q H G E S P W T F G Q G T

801 AAGGGGAGA TAAACGAA TGTTGGCTGCA CCATCTGTCT TCATCTCTCC CCCATCTGAT GAGGAGTTGA AATCTGGAAC TGCTCTCTGTT GTGTGCCCTC
TTCCACCTCT AGTTGCTG ACACCGACGT GGTAGACAGA ATGAGAAGG CGGTGACTA CTCCCTCAACT TTAGACCTTG AGCAAGACAA CACAGGGAG
126 K V E I K R T V A A P S V F I F P P S D E Q L K S G T A S V V C L L

901 TGATTAACCTT CTATCCAGA GAGGCCAAAG TACAGTGGAA CGGTGATAAC GCCCTCCAAT CGGTTAACTC CCAGGAGAGT GTCAACAGAGC AGGACAGGAA
ACTTATGAA GATAGGGTCT CTCGCTTIC ATGTCACCTT CCACCTATG GGGAGGTTA GGGCATTTA CAGTGTCTCA CAGTGTCTGG TCCCTGTCTT

160 N N F Y P R E A K V Q W K V D N A L Q S G N S Q E S V T E Q D S K

1001 GGACAGGACC TACAGGCCCTCA GCAGGCCCTT GAGGCTGTGACC AAAGGAGACT ACAGAAAAACA CAAAGTCTAC GCCTGGGAAG TCACCCATCA GGGCTGTGAGC
CCTGTCTGG ATGTCGGAGT CGTCCTGGGA CTGGACTG TTTCGTTGTA TGCTTTTGT GTTCAAGTG CGACCCCTTC AGTGGTAGT CCGGGACTCG
193 D S T Y S L S S T L T L S K A D Y E K H K V Y A C E V T H O G L S

1101 TGCCCCCTCA CAAAGAGCTT CAAAGGGGA GAGTGTAAAT TAAATCTCT AGCGGGGACG CATCGTGGCG AGCTCGGTAC CGGGGGATCT AGGCCTAACG
AGCGGGCAGT GTTCTCGAA GTTGTCCCCCT CTCACAAATA ATTAGAGA TGCGGCCCTGC GTAGCACCGC GGCCCCATG TCGGGATTC

226 S P V T K S F N R G E C O

FIG. 1A

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1201 CTCGGTTGCC GCGGGGGCTT TTATATTGTC GCGACGGCGC ATCTCGAATG AACTGTGTGC GCAGGTAGAA CCTTGGAGA TTATCGTCAC TGCATGCTT
GAGCCAACGG CGGGCCGGAA AAAATAACAA CGGCTGGCG TAGACCTTC TTGACCAACG CGTCATCTT CGAACCTCTT AATAGCACTG AGCTACGAA

1301 CGCAATATGG CGCAAAATGG CCAACAGGGG TTGATGATC AGTAGAGGG GGGCTGTAC CGCGACATG CTCCATTCG GGTRACGTC GTAGGACTG CTGCTATGCC

1401 AGCTGCTGG CGATTACCA AAGAAGTTAT TGAAGCATCC TCGTCAGTAA AAGGTTAATC TTTCACAG CTGICATAAA GTTGCAAGG CGAGACTTA

1501 TAGTGGCTT GTTTTATT TTAATGTT TTGTAACTAG TACCGAAGT CACGTTAAA GGCTATCTAG AATTAATGAG AGAAATATCG CATTCTCT
TCGACGACGC GCTAATGCAAT TTCTCAATA ACTCTGAGG AACATGATC ATGCCTCAA GTGCATTTT CCCATAGATC TTATAGTC GAACTGCC GGCTCTGAAT
ATCAGCGAA AAATAATAAA AAATAATAAA AACATGATC AACATGATC ATGCCTCAA GTGCATTTT CCCATAGATC TTATAGTC GAACTGCC GGCTCTGAAT
1 STII Signal Sequence TIR-1

1601 TGCATCTATG TTGCTTCTTCTT CTCAATATT AAGGACTACT ACATGCACT GGTCCGTCAG GCCCGGGTAA AGGGCTGGA ATGGTTGGA TTGATGATC
ACGTAGATAC AAGGAAAAAA GATAACGATG TTGCGCATG CGACTCAG TGACCGACTT CGGACGCCAG CGGACCCAT TCCGGACCT TACCCAACT AACTAACAG
10 A S M F V F S I A T N A Y A E V Q L V E S G G L V Q P G G S L R

Anti-Tissue Factor Heavy Chain

1701 TTGCTCTGTG CAGCTTCTG TTGCTTCTG TTGCTTCTG TTGCTTCTG TTGCTTCTG TTGCTTCTG TTGCTTCTG TTGCTTCTG TTGCTTCTG
AACAGAACAC GTGAGAACCC GAAGTTATAA TTCTCTATGA TTGCTTCTG TGACCGACTT CGGGCAGTC CGGGCCAT TCCGGACCT TACCCAACT AACTAACAG
43 L S C A A S G F N I K E Y Y M H W V R Q A P G K G L E W V G L I D P

1801 CAGAGGAAGG CAACACGATC TATGACCGAA AGTTCAGGA CGCTGCACT ATAAGGGCTG ACAATTCAA AAACACAGCA TACCTGAGA TAAACAGCT
GTCTCGTTCG GTTGTGCTAG ATACTGGCT TCAAGGTCTT GGACGGTGA TATTGGCTAC TGTTAGGT TTGTGTGCTG ATGGACGTCT ACTTGCTGGAA
77 E Q G N T I Y D P K F Q D R A T I S A D N S K N T A Y L O M N S L

1901 GGCTGCTGAG GACACTGCG TCTATTATG TGCTCGAGAC ACGGCCGCTT ACTCGACTA CTGGGGTCAA GGAAACCTGG TCACCGTCTC CTGGCCCTCC
CGCACGACTC CTGTGACGGC AGATAATAAC AGGAGCTCTG TGCCGGGAA TGAGGCTAT GACCCCGATT CCTGGGACCC AGTGGCAGAG GRGCCGGAGG
110 R A E D T A V Y Y C A R D T A A Y F D Y W G O G T L V T V S S A S

110 R A E D T A V Y Y C A R D T A A Y F D Y W G O G T L V T V S S A S
143 T K G P S V F P L A P S S K S T S G G T A A L G C L V K D Y F P E P

143 T K G P S V F P L A P S S K S T S G G T A A L G C L V K D Y F P E P
177 V T V S W N S G A L T S G V H T F P A V L Q S S G L Y S L S S V V

177 V T V S W N S G A L T S G V H T F P A V L Q S S G L Y S L S S V V
2101 CGGTGAGGT GTCGTTGAAAC TCAGGGCCCC TOACCAACCC CGTGCACACC TTCCGGCTG TCTACAGTC CTAGGACTC TACTCCCTCA GCAGCGTGT
GCACACTCCA CAGCACCTG AGATCGCA ACCCGCTG GCACCGTGG AAGGGCCGAC AGATGTAG GAGTGTAG ATGGGGAGT CGTGGCTGAG
177 V T V S W N S G A L T S G V H T F P A V L Q S S G L Y S L S S V V
2101 GACTGTCCC TCTAGGACTT TGGGACCA GACCTACATC TGCAACGCTGA ATCACAGCC CACCAACAC CAGGTGACAA AGAAAAGTGA GCCCAAATCT
CTGACAGGG AGATCGCA ACCCGCTG CGGATCTAG AGCTTCACT TAGTTCTGG GTGTTGCTG TTCACCTGT TTCTCAACT CGGCTTACA
210 T V P S S S L G T Q T Y I C N V N H K P S N T K V D K K V E P K S

210 T V P S S S L G T Q T Y I C N V N H K P S N T K V D K K V E P K S
2301 TGTGACAAAA CTCACACATG CCCACCGTGC CCAGCACCTG AACTCTGGG GGGACCGTCA GTCTCTCTT TCCCCCCAAA ACCCAGGAC ACCCTCTATGA
ACACTGTTT GAGTGTGAC GGGTGGCACG GTGTCGGAC TTGAGGACCC CCCTGGCAGT CAGAAGGAA AGGGGGTTI TGTTTCTCTG TGGGAGTACT
243 C D K T H T C P P C P A P E L L G G P S V F L F P P K D T L M I

243 C D K T H T C P P C P A P E L L G G P S V F L F P P K D T L M I
2401 TCTCCGGAC CCCTGAGGT ACATCGTGG TTGTTGAGGT GAGCCACGAA GACCTGTAGG TCAAGTCAA CTGTAAGTCA AGTCAAGTCC AGTCAAGTCC
AGAGGGCTTG GGGACTCCAG TGAGGACCC ACCACCTCA CTGGCTGCTT CTGGGACTCC AGTCAAGTCC AGTCAAGTCC AGTCAAGTCC
247 S R T P E V T C V V V D V S H E D P E V K F N W Y V D G V E V H N

FIG. 1B

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2501 TGCCAAGACA AAGCCGGGG AGGAGCAGTA CAACAGGACG TACCGTGTGG TCAGCGTCTT CACCGTCTG CACCGAGACT GGCTGAATGG CAAGGAGTAC
ACGGTTCTGT TTCCGGGCC TCTCGTCAT GTTGTCTGC ATGGCACACC AGTGGCAGGA GTGGCAGAC GTGGTCCTGA CCCACTTAC GTTCCTCATG
310 A K T K P R E E Q Y N S T Y R V V S V L T V L H Q D W L N G K E Y

2601 AAGTCCAAGG TCTCCAACAA AGCCCTCCA GCCCCCATCG AGAAAACCAT CTCCAAGCC AAAGGGAGC CCCGAGAAC ACAGGTGTAC ACCCTGCC
TTCACGTTC AGAGTTGTT TCGGGAGGT CGGGGTAGC TCTTGGTA GAGTTTGG TTTCCCTGC GGGCTCTGG TGTCACATG TGGGACGGG
343 K C K V S N K A L P A P I E K T I S K A K G Q P R E P Q V Y T L P P

2701 CATCCGGGA AGAGATGACC AGAACCAAGG TCAGGCTGAC CGTGGCTGGTC AAAGGCTTCT ATCCACCGA CATGCCGTC GAGTGGGAGA GCAATGGCA
GTAGGGCCCT TCTCTACTGG TCTCTGGTC AGTGGACTG GACGACCG AGGCTGGTAGA TAGGGTGTCT GTAGGGGCAC CTACACCTCT CGTAAACCGT
377 S R E E M T K N Q V S L T C L V K G F Y P S D I A V E W E S N G Q

2801 GCGGAGAAC AACTACAAGA CCACGCCCTCC CGTGCTGAC CGTGGCTGGCT CCTCTCTCT CTACAGGAAG CTACACCGTGG ACAAGAGGAG GTGGCAGCAG
CGGCCCTTGG TTGTGTGTTCT GTGGGGGG GCACGACCTG AGGCTGCCA GGAAAGAGCA GATGTCGTTG GAGTGGCAC CACCGTCAC TGTTCTGTC
410 P E N N Y K T T P V L D S D G S F F L Y S K L T V D K S R W Q Q

2901 GGAAGGTCT TCTCATGCTC CGTGATGGAT GAGGCTCTGC ACAACACATA CACCGAGAG AGCCTCTCC TGTCCTCGG TAATAAGCA TGCGACGGCC
CCCTTGAGA AGAGTACGAG GCACACTTA CTCCGAGACG TGTTGGTAT GTGGCTCTC TCGGAGGG ACAGAGGCC ATTATTCGT ACGCTGGGG
443 G N V F S C S V M H E A L H N Y T Q K S L S L S P G K O

3001 CTAGATCCC TAAGCTCGG TGGCGGGG GCGTTTTTA TTGTTAACCTC ATGTTGACA GTTGTGAT AACATTGAG TACAACTGT CGAATAGT
GATCTCAGGG ATTGGAGCC AACGGGGCC CGCAAAAAAT AACATTGAG TACAACTGT CGAATAGT CGAATAGT CTATTGAAA TTACGCCATC AAATAGTGT
3101 TAAATTGCT AACCGAGTCA GGACCCGCTT ATGAAATCTA ACAATGGCT CACGGTCTC CTGGCAGCC TCACCCCTGGA TGCTGAGC ATAGGCTTGG
AATTAAAGA TTGGCTCAGT CCCTGGCACA TACTTTAGAT TGTTAGCA Start Ter Resistance Coding Sequence

3201 TTATGGCGGT ACTGCGGGC CTCCTGGGG ATATCGTCCA TTCCGACAGC ATGCCAGTC ACTATGGCGT GCTGCAGCG CTATATGGCT TGATGGCAATT
AATACGGCCA TGACGGCCCC GAGAACGCC TATAGGAGT AAGGCTGGT AAGGCTGGT TGATGGTCA TGACGGTCA GATATACGCA ACTACGTTAA

FIG. 1C

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1 GAATTCAACT TCTCCATACT TTGGATAAGG AAATACAGAC ATGAAAATC TCATTGTGA GTTGTATT AAGCTTGCCC AAAAGAAA AGAGTCGAAT
CTTAAGTGA AGAGGTATGA AACCTATTCC TTATGTCTG TACITTTAG AGTAACGACT CAACAATAAA TTCAACGGG TTTCAGCTTC TCTCAAGCTTA

101 GAACTGTGIG CGCAGGTAGA AGCTTGGAG ATTATCGTCA CTGCAATGCT TCGAAATATG GCGCAAATG ACCAACAGCG GTTGTATTGAT CAGGTAGGG
CTTGACACAC CGGTCACTCT TCGAACCTC TATAGCTG AGCGTGTAGA AGCGTTATAC CGCGTTTAC TGGTGTGCG CRACTAACTA GTCCCATCTC

201 GGGGGCTGTA CGAGGTAAG CCCGATGCCA GCAATCCGTA CGACGATAGC GAGCTGTGC GCGATTAAGT AAAGAGTTA TGAAGGCATC CTCGTCAGTA
CCCCGCACT GCTCCATGCT GGTCCATTTC GGCGTACGGT CGTAGGACT GCTGCTATGC CTGCGAGCG CGCTAATGCA TTCTCTCAAT AACCTCGTAG GAGCAGTGTAT

301 AAAAGTTAAT CTTTCAACA GCTGTCATAA AGTTGTCAAG GCCGAGACTT ATAGTCGCTT TGTTTTATT TTITATGTA TTGTAACTA GTACGCAAGT
TTTCAATTAA GAAAAGTTG TGACAGTATT TCAACAGTGC CGGCTCTGAA TATCAGGAA ACAAAAAATAA AAATACAT AACATTTG CATGCGTCA

401 TCACGTAAA AGGGTATCTA GAATTATGAA GAAAACATC GCTTTCTTC TTGCACTATG GTTGTGTA CAAACGGCTA CGCTGATATC
AGTGCAATT TCCCATAAGAT CTTGTATCTT CTGAGTAAAGG AACGTAGATA CAAGGAAAAA AGATTAAGAT GTTGTGCTAT GCGACTATAG
1 M K N I A F L L A S M F V F S I A T N A Y A D I
^ start STII signal TIR-2
^ start light chain^

501 CAGATGCCC AGTCCCCGAG CTCCCTGTCC GCCTCTGTGG GCGATAGGGT CACCATCAC TGCAAGGCCA GTCCGACAT CAAGAGCTAT CTGAACCTGGT
GTCTACTGG TCAGGGCTC GAGGACAGG CGGAGACACC CGCTATCCCA GTGGTAGGG ACGTCTGGT CAGTCGATA GACTTCACCA
26 Q M T Q S P S S L S A S V G D R V T C R A S R D I K S Y L N W Y

601 ATCAACAGAA ACCGGAAA GCTCGAAAG TACTGATTA CTATGCTACT AGTCTCGCTG AAGGAGTCCC TTCTGCTTC TCTGGATCCG GTTCTGGAC
TAGTTGTCTT TGGTCTTTT CGAGGCTTTC ATGACTAAAT GATAGCATGA TCAGAGGCAC TTCCCTAGGG AAGAGCGAAG AGACCTAGGC CAAGACCTG
60 Q Q K P G K A P K V L I Y Y A T S L A E G V P S R F S G S G S G T
CCTAATGGA GACTGGTAGT CGTCAGACGT CGTGTCTCTG AAGGGTTGAA TAATGACAGA AGTCGTGCCT CTCAAGGGTA CCTGTAACCC TGTCGGATGG
93 D Y T L T I S S L Q P E D F A T Y Y C L Q H G E S P W T F G Q G T

701 GGATTCAACT CGGACATCA CGAGGTGCA GCGAGAAC TTGCGCAACTT ATTACTGTCT TCAGGACGGA GAGTCTCCAT GGACATTGG ACAGGGTAC
CCTAATGGA GACTGGTAGT CGTCAGACGT CGTGTCTCTG AAGGGTTGAA TAATGACAGA AGTCGTGCCT CTCAAGGGTA CCTGTAACCC TGTCGGATGG
93 D Y T L T I S S L Q P E D F A T Y Y C L Q H G E S P W T F G Q G T

801 AAGGTGGAGA TCAACAGAAC TGTGGCTGCA CCATCTGCT TCATCTTCCC GCCATCTGAT GAGGGATGAA AATCTGGAAC TGCTTCTGTT GTGTGCTG
TTCCACCTCT AGTTGTCT ACACCGACGT GTTAGAAGAGA AGTAGAAGGG CGGTAGATA CTCGTCACCT TAGGACCTTG AGGAAGCAA CACACGGACG
126 K V E I K R T V A A P S V F I F P P S D E Q L K S G T A S V V C L L

901 TGAATAACTT CTATCCAGA GAGGCCAAAG TACAGTGGAA GTGGGATAAC GCCCTCCPAT CGGTAACTC CGAGGAGGT GTCACAGAGC AGGACAGCAA
ACTTATGGA GATAGGGTCT CTCCGGTTT ATGTCACCTT CCACCTATTG CGGGAGGTAA GCCCATGAG GTCTCTCA CAGTGTCTG TCCCTGTGTT
160 N N F Y P R E A K V Q W K V D N A L Q S G N S Q E S V T E Q D S K

1001 GGACACACC TACAGCCTCA GCAGCACCCCT GAGGCTGAGC AAAGGAGACT ACGRAGAAACA CAAAGCTAC GCCTGCGAAG TCAACCATCA GGGCCTGAGC
CTGTGTGGG ATCTGGAGT CGTCGTGGGA CTGCGACTCG TTTCGTCGTA TGCTCTGTT GTTCGAGAT CGGAAGCTTC AGTGGSTAGT CCGGGACTTC
193 D S T Y S L S S T L T L S K A D Y E K H K V Y A C E V T H Q G L S

FIG. 2A

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1001 GGACAGCACC TACAGCCCTCA GCAGCACCT GACGCTGAGC AAAGGACACT ACCAGAAACA CAAAGTCTAC GCGCTGGAAAG TCACCCATCA GGGCCTGAGC
CCTGTGTTGG ATGTCGGAGT CGTCGACTCG TTGCTGTGA TGCTCTTGT GTTTCAGAT CGGACGCTTC AGTGGTAGT CCCGGACTCG
193 D S T Y S L S S T L T L S K A D Y E K H K V Y A C E V T H Q G L S

1101 TCGCCCGTCA CAAAGAGCTT CAACAGGGAA GAGTGTAAAT TAAATCCTCT ACGCCGGACG CATCGTGGCG AGCTGGTAC CCGGGATCT AGGCCTAACG
AGCGGGCAGT GTTCTCGAA GTTCTCCCT CTCACAATTAA ATTAGGAGA TGEGGCTGCG GTAGCACCAC TCGAGCCATG GGCCCCTAGA TCCGGATG
226 S P V T K S F N R G E C O

1201 CTGGTTGCC GCCGGGGTT TTTATTGTT GCGACGCGC ATCTCAAATG AACTGTGTC GCAGGTAGAA GCCTGGAGA TTATGTCAC TGCAATCTT
GAGGCCAACGG CGGGCCGAA AAATAACAA CGGCTGCGG TAGAGTTCAC TIGACACAG CGTCCATCT CGAACCTT AATAGAGTG ACGTTAGAA

1301 CGCAATATGG CGCAAAATGA CCACAGCGG TTGTTGATC AGGTAAGGGGG GGCGCTGTAC GAGTAAGAC CGATGCCAG CATTCTGAC GACGATAGG
GGGTTATACC GCGTTTACT GTTGTGCGC AACTAATCG TCCATCTCC CGGGAATCG CTCATTCG GCTACGTC GTRAAGACTG CTGCTATGCC

1401 AGCTGGCTGG CGATTAAGTGA AAGAAGTTAT TGAAGGATTC TCGTCAGTAA AAAGTTAACG TTTCACACAG CGTCATCAA GTTGTCAAGG CCGAGACTTA
TCGACGAGGC GCTAATGCAAT TCTTCATGAC ACTTCGTTAG AGCAAGTCAATT TTTCATATTAG AAAAGTGTCA ATTGTGTC GACAGTATTAA
1501 TAGTCGCTTT GTTTTATT TTTAATGTT TTGTAATCTG TAGCTAAAAA CGCTGAAATT TTGTTGATCTAG ATTATGAAAG AAAAACATCG CTTTTCTCT
ATCAGGGAAA CAAAAATAAA AAATTACATA AACATTGATC ATGCGTTCAA GTGCAATTTC CTCATAGATC TTAACTTC TTTTGTAGC GAAAAGAGA
1 M K K N I A F L L
^ start STII signal TIR-2

1601 TGCATCTATG TTGGTTTTT CTATTGCTAC AAACGCGTAC GCTGAGGGTC AGCTGGTGG A GTCTGGGGT GGCGCTGGTC AGCCAGGGG CTCACTCG
ACGTAGATAC AAGCAAAAAA GATAACGATG TTGGCGATG CGACTCAAG TCGACACCT CAGACCCCA CGGACCAACG TCGTCCCCC GAGTGAGGCA
10 A S M F V F S I A T N A Y A E V Q L V E S G G L V Q P G G S L R

1701 TTGTCCTGTG CAGGTTCTGG CTTCATAATT AAGGGACTACT ACATGCACTG GGTCCGTAG GCCCCGGTA AGGGCTGGA ATGGGTGGAA TTGATTGATC
AACAGGACAC GTGGAGACC GAGTTATAA TTCCCTCATGA TGTCAGTGC CCAGGCACTG TCCGGACCT TACCCACCT AACTAACAG
43 L S C A A S G F N I K E Y Y M H W V R Q A P G K G L E W V G L I D P
^ start heavy chain

1801 CAGAGCAAGG CAAACGATC TATGACCGA AGTTCACCGA AGTCCAGGAA AGTCCAGGTT TCAAGGGCT TCTGGCTGAC TATTGGCTG
43 L S C A A S G F N I K E Y Y M H W V R Q A P G K G L E W V G L I D P
^ start heavy chain

1901 GCGTGGTGG GACACTGCGC TCTTATTATG TGCTCGACAC ACGGCGCTT ACTTCGACTA CTGGGTCAA GGACCCCTGG TCACCGCTTC CTCGGCTCC
CGCACCACTC CTGGACGGC AGATATAAC AGGAGCTTG TGCGCGAA TGAAGCTGAT GACCCAGGT CCTGGGACG AGTGGCAGG GAGCGGAGG
110 R A E D T A V Y Y C A R D T A A Y F D Y W G Q G T L V T V S S A S

2001 ACCAAGGGCC CATGGTCTT CCCCTGGCA CCCTCTCCA AGGGCACCTC TGGGGCACA GCGGCCCTGG GCTGGCTGGT CAAGGACTAC TTCCCCGAAAC
TGGTTCCGG GTAGCCAGAA GGGGACCTG GGGGGGGTT TCTGGTGGAG ACCCCCTGT CGCCGGGACG CACGGGACCA GTTCCCTGATG AAGGGCTTG
143 T K G P S V F P L A P S S K S T S G G T A A L G C L V K D Y F P E P

2101 CGGTGACGGT GTCTGGAAAC TGACCGGCCG TGACCGACACC TCTTACAGTC CTCAGGACTC TACTCCCTOA GCAGGGTGGT
GCCACAGCCA CAGGACCTTG ACTGGTGGC ACTGGTGGGG AAGGGCCAC AGGAGTGTAG ATGAGGGAGT CGTGGCTGAG
177 V T V S W N S G A L T S G V H T F P A V L Q S S G L Y S L S S V V

FIG. 2B

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2101 CGGTGACGGT GTGGGGAAC TCAAGGGGCC TGACGACACC CGTGCACACC TTCCCCGCTG TCCTACAGTC CTCAGGACTC TACTCCCTCA GCAGCGTGGT
GCCACTGCCA CAGAACCTTG AGTCCGGC ACTGGTGGC AGATGTCGA ACCCGTGG
177 V T V S W N S G A L T S G V H T F P A V L Q S S G L Y S L S S V V

2201 GACTGTGCC TCTAGCAGCT TGGGCCACCA GACCTACATC TGCAACGTTA ATCACAAAGCC CAGCAACACC AAGGTGGACA AGAAAGTTGA GCCCAAATCT
CTGACACGGG AGATGTCGA ACCCGTGG
210 T V P S S L G T Q T Y I C N V N H K P S N T K V D K K V E P K S

2301 TGTCACAAA CTCACACATG CCACCGTGC
243 C D K T H T C P P C P A P E L L G G P S V F L F P P K P K D T L M I
ACACTGTTT GAGTGTAC GGTTGGACG GGTCGTTGAC TTGAGGACCC CCTTGCGAGT CAGAAGGAGA AGGGGGTT TGGGTCTGT TGGGAGTACT

2401 TCTCCGGAC CCCTGAGGT ACATGGCTGG TGGTGGAGCT GAGCCACGAA GACCCCTGAGG TCAAGTTCAA CTGGTAGCTG GACGGCGTGG AGGTGCATAA
AGGGGGCTG GGGACTCCAG TGTAACGACCC ACCACCTGCCTC CTGGGTGCTT AGTCAAGTT GACCATGAC TCCACGTATT
277 S R T P E V T C V V V D V S H E D P E V K F N W Y V D G V E V H N

2501 TGCCAAAGACA AAGCCGCGGG AGAGGCACTA CAACAGCAGC TACCGTGTGG TCAGGCTCCT CACCGGACT GGCTGAATGG CAAGGAGTAC
ACGCTCTGT TTGGCGCCC TCTCTGTAT GTTGTGTCG ATGGCACACC AGTGGCAGGAC GTGGCAGGAC GTGGTCTGA CCGACTTACG GTCCTCATG
310 A K T K P R E E Q Y N S T Y R V V S V L T V L H Q D W L N G K E Y

2601 AAGTGCAAGG TCTCAACAA AGCCCTCCA GCCCCCATCG AGAAAACCAT CTCCAAGCC AAAGGGCAGC CCGAGAACCC ACAGGTGTAC ACCCTGCC
TTCACTGTTCC AGAGTTGTT TCGGGAGGT CGGGGGTAGC TCTTTGGTA GAGGTTCTGG TTTCCTGTT GGCTCTGG TGTCACATG TGGGACGGGG
343 K C K V S N K A L P A P I E K T I S K A K G Q P R E P Q V Y T L P P

2701 CATCCGGGA AGAGATGACC AAGAACCCGG TCAGCCTGAC CTGGCTGGTC AAAGGGTCT ATCCAGCGA CATGCCGTG GAGTGGAGA GCAATGGGCA
GTAGGGCCCT TCTCTACTGG TCTCTACTGG AGTGGACTG GACGGACAG TTTCCGAGA TAGGTCGCT GTAGGGCAC CTACCCCTCGT CGTACCGT
377 S R E E M T K N Q V S L T C L V K G F Y P S D I A V E W E S N G Q

2801 GCGGGAGAAC AACTACAAGA CCACGCCCTCC CGTGTGGAC TCCGACGGGT CCTTCTCTCT CTACAGCAAG CTACCCGGG ACAAGAGGAGG GTGGCAGCAG
CGGCCCTTGT TTGATGTTCT GGTCGGAGG GCACGACCTG AGGCTGCCGA GGAAGAGGA GATTCGTTTC GAGTGGCAC CACCGTGTG
410 P E N N Y K T T P P V L D S D G S F F L Y S K L T V D K S R W Q Q

2901 GGGAAACGTCTCTCGT TCTGATGCT GAGGTCTGC ACACCACTA CACGCGAAG AGCCCTCCC TGTCCTCGG TAAATAGCA TGCGACGGCC
CCCTTGAGA AGAGTACGAG GOACTACGTA CTCCGAGACG TGTGGTGTAG GTGGCTTTTC TCGGAGGGG ACAGGGGCC ATTATTCGT ACGCTGCG
443 G N V F S C S V M H E A L H N Y T Q K S L S P G K O

3001 CTAGAGTCCC TAAGCTCGG TTGCGCCGG GCGTTTTTA TTGTTAATCT ATGTTGACA GCTTATCATC GATAAGCTT AATGGGTAG TTATACACAG
GATTCAGGG ATTGGAGCC AACGGGGCC CGCAAAAAAT AACAAATTAG TACAATCTGT CGAATAGTAG CTATTGCAA TTACGGCATC AAATAGTGT
3101 TAAATATGCT AACGAGTCA GGACCGCT GTGGTCACTA ACAATGGCT CATCGTCATC CTGGCACCG TOACCCCTGGA TGCTGTAGGC ATAGGCTGG
AATTTAACGA TTGCTGCTGT CGTGGCACCA TACTTTAGAT TGTTACGGGA GTAGCAGTAG GAGGGGACCT ACGACATCGG TATCCGAAACC

3201 TTATGCCGGT ACTGCCGGG CTCTTGCGGG ATATCGTCCA TT
AATACGGCCA TGAGGGCCG GAGAACGCC TATAGCAGGT AA

FIG. 2C

METHODS AND COMPOSITIONS FOR INCREASING

ANTIBODY PRODUCTION

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1 GAACTTCACT TCTCCATACT TTGGATAAGG AAATACAGAC ATGAAAATTC TCATTTGCTGA GTTGTATT AGCTTGCCC AAAAGAAGAA AGAGTCGAT
CTTAAGTGA AGAGGTATGA AACCTATTC TTTATGCTG TACTTTTAG AGTAACGACT CAACTAAATTC TGCGAACGGG TTTTCTCTT TCTCAGCTA

101 GAACTGTTG CGCAGGTAGA AGCTTTGGAG ATTATGCTCA CTGCAATGCT TCGCAATGTS GCCAAATG ACCAACAGGC GTTGATGAT CAGTGAGG
CTTGACACAC CGGTCTACT TCGAAACCTC TAATAGGAGT GACGTGCTGA AGCGTTTAC CGCGTTTAC TGCGTGTGC CAACTACTA GTTCATCTCC

201 GGGCGCTGTA CGAGGTAAG CCCATGCCA GCATTCTGTA CGACGATAG CAGETGCTGC CGGATTAGT AAAGAAGTT TTGAGCATC CTCGTCAGTA
CCGGCACAT GCTCCATTTC GGCTACGGT CGTAAAGGACT GCTGCTATGC CTGACAGGC CGCTAATGCA TTTCCTCAAT AACTCTGAG GAGCAGTCAT

301 AAAAGTAAAT CTITCAAACA GCTGTCAAA AGTTGTGAGC GTTGTGACTT ATATCGCTT TGTTTATTA TTGTTAATGTA TTGTTAATGTA GTACGGAAGT
TTTCATTA GAAAGTGTG CGCAGTATT TCAACAGTGC CGGCTCTGAA TATCAGGAA ACAAAATAAA AAAATTACAT AAACATTGAT CATGGCTTA

401 TCACGTAAGG AGGGTATCTA GAAATTGAA GAAGAATATC GCATTCTCTC TTGCACTATG GTTGTGTTT TCTATTGCTA CAACGCTA CGGTGATATC
AGTGCAATT TCCCATAGAT CTTCTATAG CGTAAAGAAG AACGTAGATA CAAGGAAAAA AGATACGAT GTTGGCCAT GCGACATAG
1 M K N I A F L L A S M F V F S I A T N A Y A D I
^STII Signal TIR -1

501 CAGGTGACCC AGTCCCCGAG CTCCCTGTC GCCTCTGTC GCGATAGGGT CACCATCAC TCGAGGCCA GTCAAGGAT TACCAACTAT TTAAACTGTT
GTCAGCTGGG TCAAGGGCTC GAGGGACAGG CGGAGACCC CGCTATCCCA GTGGTAGTGG AGGTCTCGTT CAGCTCTATA ATCGCTATA AATTGACCA
26 Q L T Q S P S S L S A S V G D R V T I T C S A S Q D I S N Y L N W Y

601 ATCAACAGAA ACCGGAAA GCTCCGAAAG TACTSATTAA CTTCACCTCC TCTCTCCACT CTGGAGTCCC TTCTCGCTC TCTGGATCCG GTTCCTGGAC
TAGTGTCTT TGCTCTT CGAGGCTTC ATGACTAAAT GAAGTGGGG AGAGAGGTGA GACCTCGGG AAGAGGGAG AGACCTGGG CAAGACCTG
60 Q K P G K A P K V L I Y F T S S L H S G V P S R F S G S G T

701 GGATTTCATCTCAGTCA GCAAGTCGCA GCCAGAAGAC TTGGCAACTT ATTACTGCA ACAGTATGG ACCTGCGCT GGACGTTGG ACAGGGTAC
CCTAAAGTGA GACTGGTAGT CGTCAGACTG CGGTCTCTG AAAGGTGAA TAATGAGAT TGTCATATCG TGCGACCSAA CCTGGAAACC TGTCCTCATGG
93 D F T L T I S S L Q P E D F A T Y Y C Q Q Y S T V P W T F G Q G T

801 AAGGGGAGA TCAAACGAC TTGGGTGCA CACATGTTCT TGATCTCCC GGCATCTGAT GAGGAGTGA AATCTGGAAC TGCTCTGTT GTGTGCTGCG
TTCACCTCT AGTTGCTT ACACCGACGT GTAGACAGCA AGTAAAGGG CGGTAGACTA CTCGTCAACT TTGACCTG ACGAACAA CACAGGAGC
126 K V E I K R T V A A P S V F I F P P S D E Q L K S G T A S V V C L L

901 TGATAACTT CTATCCAGA GAGGCCAAAG TAGCTGGAA GGTGGATAAC GCGCTCCAACT CGGGTAACCT CCAGGAGGT GTCAAGAGC AGGACAGCAA
ACTTATGAA GATAGGGTCT CCTCGGTTC ATGTCACCTT CCACCTATGG CGGGAGGTAA GCGCTCTCA CAGTCCTCG TCCCTGCTGT
160 N N F Y P R E A K V Q H K V D N A L Q S G N S Q E S V T E Q D S K

1001 GGACAGGACCC TACAGCTCA GCAGGACCC GACCGCTGAGC AAAGCAGACT ACAGAAACA CAAAGCTCA GCCTGGGAAG TCACCCATCA GGGCCTGAGC
CCTGTCGTTG ATGTCGAGT CGTCGTTGG CTTGGACTCG TTTCGTCGTA TGCTCTTGT GTTCAGATG CGGACGTTTC AGTGGTAGT CCGGGAATCG
193 D S T Y S L S S T L T L S K A D Y E K H K V Y A C E V T H Q G L S

1101 TCGCCCGTCA CAAAGAGCTT CAACAGGGAA GAGTGTAAAT TAATCTCT ACGCGGGACG CATCGTGGGAGC AGCTCGTAC CGGGGGACT AGGCCTAACG
AGGGGGAGT GTTCTCGAA GTTGTCCCT CTCACAAATT ATTAGGAGA TCGGCCCTG TGAGGCCATG GGCCCCTAGA TCGGGATG

226 S P V T K S F N R G E C O

FIG. 3A

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ANTIBODY PRODUCTION

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1201 CTGGGTGCC GCGGGCGT TTTATTGTT GCGGACGGC ATCTCGATG AACTGTGTC GCAGGTAGAA GCTTGGAGA TTATGTCAC TGCATGCTT
GAGCCACGG CGGGCGCA AAAATAACAA CGGCTGCCA TAGACTAC TTGACACAG CGTCCATCTT CGAACCTCT AAATGAGTG AGGTAGAA

1301 CCAAATGG CGAACATGG CCACAGCG TIGATGATC AGGTAGGG GGGCTGTAC GAGTAAGC CGATCCAG CATTCCTGAC GACGATAGG
GGGTATACC GGTTTACT GGTGTCGCC AACTAATG TCCATCTCCC CGCGACATG CTCCATTCG GGTCAGGTG GTAGGACTG CTGCTATGCC

1401 AGCTGCTGCG CGATTACGT AAGAAGTTAATG TGAGGATCC AACTAATG TCCATGTC CCCATAGTC TTAACTACG CTGTATAAA GTGTCAGG CCGAGACTA
TGACGACGC GCTAATGCAAT TTCTCAATAA ACTTCGTAAG AGACTCAATT TTCAATTAG AAAAGTGTGACAGTATT CAACAGTGC GGCTCTGAAT

1501 TAGTCCTT GTTTTATT TTTAATGTTT TTGTAATCTAG TACGTTAAA GGGTATCTAG AATTATGAG AAGAATATCG CATTTCCTCT
ATCAGGAAA CAAAAATAAA AAATTACATA AACATTGATC ATGCTTCAAA TTCTCAATAA ACTTCGTAAG AGACTCAATT TTCAATTAG AAAAGTGTGACAGTATT CAACAGTGC GGCTCTGAAT

1 STII signal TIR-1

1601 TGCATCTATG TTGCTTTCTT CTATTGCTAC AAACCGTAC GCTGAGGTTC AGCTGGTTC AGCTGAACTCG GTCTGGGGT GCCCTGGTGC AGCCAGGGG CTCACCTCGT
ACGTAGATAC AAGCAAAAAA GATAACGATG TTGCGCATG CGACTCCAG TGACCCACT CAACTTGAC CCAGGCACT CGGGGCCAT TCCGGACCT ACCTAATGTT
10 A S M F V F S I A T N A Y A P H Y G N N W V R Q A P G K G L E W V G W I N T

1701 TGTCTCTGT CAGCTTCTGG CTACGACTTC ACGGACTAAG GTATGAACTCG GTCTGGTAG GCCCGGGTA AGGGCTGGA ATGGTGGAA TGGATTAACA
AACAGGACAC GTGCGAAGACCC GATGCTGAG TGCGTATG CAACTTGAC CCAGGCACT CGGGGCCAT TCCGGACCT ACCTAATGTT
43 L S C A A S G Y D F T H Y G N N W V R Q A P G K G L E W V G W I N T

1801 CCTATACGG TGAAACGCGG ATTCAAAAGG ATTCAAAAGG TCGTTTCACT TTTCCTTTAG ACACCCCAA AAGCACAGGA TACCTGGAGA TGAAACGCC
GGATATGCC ACTTGGCTGG ATACGACCC TAAAGTTCG AGCAAAAGTGA AAAAGAATTC TGTTGGGTT TTCTGGCT ATGGACGCT ACTTGTGGAA
77 Y T G E P T Y A A D F K R R F T F S L D T S K S T A Y L Q M N S L

1901 CGCGCTGAG GACACTGGCC TCTATTACTG CGCTTACTATT AGCGCAGAG CCACTGGTAT TTCCAGGTGTT GGGTCAAGG AACCTGGTC
CGCGGACTC CTGTGACGCC AGATAATGAC ACGTTCATG GGATGATAAA TGCGTCTC GGTAACATA AAGTGGAGA CCCAGTTC TTGGACACAG
110 R A E D T A V Y Y C A K Y P Y Y G T S H W Y F D V W G Q G T L V

2001 ACCGCTCTCT CGGGCTCCAC CCGTGGACCC CCGTCTCCAG AGCACCTCG GGCTCTGGC GGCTCTGGC TGCTCTGGCA
TGGCAGAGGA GCGCGGGGG GTTCCCGGG ACCAGAAGG GGGACGGTGG GAGGGTTTC TGCGTGGAGC CCCCGTGGC CGGGACCCG AGGACCAAG
143 T V S S A S T K G P S V F P L A P S S K S T S G G T A A L G C L V K

2101 AGGACTACTT CCCGGAAAGG GTGACGGTGT CGTGGAAACTC AGGEGCCCTG ACCAGGGGG TGCAACACCTT CCCGGCTGTC CTACAGTCTCT CAGGACTCTA
TCCCTGAA GGGCTCTGGC CACTGCCAAC GCACTCTGGAG TCCGGGGAC TGGCTGGAA GGCGCAGAG GATGTCAGGA GTCTCTGGAT
177 D Y F P E P V T V S W N S G A L T S G V H T F P A V L Q S S G L Y

2201 CTCCCTCAGC AGGGAGTCG CTGTGCCCTG TAGCACTG GCACTACAGG ATCGTGGACAC CGCTGGCTCTT GGGTGGCTT CGTTGGCTT CCACCTGTT
GAGGGAGTCG TCCGACCTG GAGACGGGAG ATCGTGGACAC CGCTGGCTCTT GGTGGACCTA GTGTCAGTA GGTGACAAAG
210 S L S S V V T V P S S L G T Q T Y I C N V N H K P S N T K V D K

2301 AAAGTGGC CCAAAACTT CACATGCC CACCGTGGCC ACCACCTGAA CTCCCTGGGG GACCGTCAGT CTTCCTCTT CCCCCAAAC
TTCAACTCG GTGTTAGAC ACTGTTTGA GTGTTACGG GTGTCACGG TCCTGGACTT GAGGACCCC CTGGTGGCTT CGTTGGCTT
243 K V E P K S C D K T H T C P P C P A P E L L G G P S V F L F P P K P

2401 CCAAGGACAC CCTCATGATC TCCGGACCC CTGAGGTAC ATGGCTGGTG GTGGAGGTGA GCGACGAGA CCCTGGGGTCAACT GGTAAGTGG
GGTICCTGTS GGAGTACTAG AGGGCTGGG GACTCCAGTG TACCCACAC CACCTGACT CGGTGCTCTT GGGACTCCAG TTCAAGTGA CCATGACCT
277 K D T L M I S R T P E V T C V V V D V S H E D P E V K F N W Y V D

FIG. 3B

METHODS AND COMPOSITIONS FOR INCREASING

ANTIBODY PRODUCTION

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2501 CGGGGTGGAG GTGCAATAATG CCAAGACAAA GCGCGGGAG GAGGAGTACA ACAGGACCTA CCGTGTGGTC AGCGTCTCTCA CGGTCTCTGA CGAGACTGG
 310 G V E V H N A K T K P R E Q Y N S T Y R V V S V L T V L H Q D W
 GCGCACCTC CACGATTAC GGTCCTGTT CGCGCCCTC CTCGTCATGT TGTCGTGAT GGACACCCG TCGAGGAGT GGAGGACGT GGTCTCTGACC
 2601 CTGAATGCCA AGGAGTACAA GTGCAAGGTC TCCAACAAAG CCCCTCCAGC CCCCATGAG AAACCATCT CCAAGACAA AGGGAGCCC CGAGAACAC
 343 L N G K E Y K C K V S N K A L P A P I E K T I S K A K G Q P R E P Q
 GACTTACGGT TCCTCATGTT CACGTCCAG AGGTGTTTC GGGAGGTTG TTTGGTAGA GGTTCGTT TCCCGTGGG GCTCTGGTG
 2701 AGGTGTACAC CCTGCCCCCA AGGAGTACAA AGGAGTACAA AGGAGTACCA AGGAGTACCT GCCCTGACCT AGGCTCTAT CCCAGGACA TCGCGTGGGA
 377 V Y T L P P S R E E M T K N Q V S L T C L V K G F Y P S D I A V E
 TCCACATGTG GACGCGGGGT AGGGCCTTC TGTACTGGTT CTGGGACTAG TGCGGACTAG CGGACCAAGT TCGAAAGATA GGTCGCTGT AGCGGCACCT
 2801 GTGGGAGAGC AATGGGAGC CGGAGAACAA CTAGAACAGC AGGGCTCCCG TGCTGGACTC CGACGGCTCC TTCTTCTCT ACAGGAAGCT CACCGTGGAC
 410 W E S N G Q P E N N Y K T P V L D S D G S F F L Y S K L T V D
 CACCCCTCTG TTACCCCTCG GCCTCTGTG GATGTTCTG TGATGCTGAC AACCACTACA CGCAGAAGAG CCTCTCCCTG TCTCCGGTA
 2901 AAGAGCAGGT GGCAGGAGG GAACGGCTTC TCATGCTCCG TGATGCTGAC AACCACTACA CGCAGAAGAG CCTCTCCCTG TCTCCGGTA
 443 K S R W Q Q N V F S C S V M H E A L H N H Y T Q X S L S L S P G K
 TTCCTCGTCAA CGCTCGTCC CTTGCAAGG AGTACGAGC ACTACGACT CGAGAGTG TTGGTGTATGT GCCTCTTC GGAGAGGAC AGAGGCCCCT
 3001 ATTAAGCATG CGACGGCCCT AGAGTCCCTA AGGCTGGTT GGGCCGGC GTTTTTATT GTAACTCAT GTTGACAGC TTATCATGA TAAGCTTTAA
 477 O
 TATTCGTCAC GCTGCCGGGA TCTCAGGGAT TGGAGGCCA CGCGGGCCG CAAAAATAA CAATGAGTA CAAACTGTG AATAGTAGCT ATTGAAATT
 3101 TGGCGTAGTT TATCACAGTT AAATTGCTAA CGCAGTCGG CACCGTGGT GAAATCTAAC AATGGCTCA TCGTCATCT CGGCACCGTC ACCCTGGATG
 ACGCCATCAA ATAGTGTCAA TTAACTGATT GCGTCAGTCC GTGGACAPTA CTTAGATTTG TTACCGAGT AGGAGTAGA GCGGTGGCAG TGGACCTAC
 3201 CTGTAAGGAT AGGCTTGTT ATGCCGGTAC TGCCGGCTT CTGGGGAT ATCGTCATT CGCACAGCAT CGGCAGTCAC TATGGCTGTC TGCTAGCGT
 GACATCCGTA TCCGAACAA TAGGCCATG ACGGCCCGA GAGGCCCTA TNGCAGGTA GGCTCTGTA GCGGTAGTG ATACCGACG ACGATGCCGA

3301

FIG. 3C

METHODS AND COMPOSITIONS FOR INCREASING ANTIBODY PRODUCTION

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1 GAACTCACT TCTCATACT TTGGATAAGG AAATACAGAC ATGAAAATC TCATTTGTGA GTTGTATT AGCTTGGCC
 CTTAAGTTGA AGAGGTATGA AACCTATTCC
 101 GAACTGTGT CGCAGGTAGA AGCTTTGGAG ATTATGTCGA CTGCAATGTCGTA AGCATAATG GCGAAAATG ACCAACAGGG
 CTTGACACAC CGGTCCATCT TCGAAACCTC TAATAGCTG GACGTTAGA AGCGTTATAC CGCCTTTAC TGCTGTGCGC CAACTAATCA GTCCCATCTCC
 201 GGGGGCTGTA CGAGGTAAG CCAGGATGCC GCATTCCTGA CGAGGATAGC GAGCTGTGC GCGATTAGT AAAGAAAGTAA TTGAAGGATC CTCGTCAGTA
 CCCGGACAT GCTCCTTC GGCTACGGT CGTAAGGACT GCTGCTATGC CTCGACGAG CGCTATGCA TTCTCTCAAT AACCTCTAG GAGGACTCAT
 301 AAAAGTTAAT CTTTCAACA GCTGTCAATA AGTGTCAAGG GCCGAGACTT ATAGTCGCTT TGTTTTATT TTAAATGTA TTGTAACTA GTACGCAAGT
 TTTCATTAA GAAAAGTGT CGACAGTATT TCAACAGTGGC CGGCTCTGAA TATCAGCGAA AACAAATAA AAATTACAT AAACATTGAT CATGGTCA
 401 TCACTGAAAA AGGGTATCTA GAATTATGAA GAAGAATATC GCATTCTTC TTGCATCTAT GTCTGTTTTCTAATGCTTA CAAACGCTGA CGCTGATATC
 ATGCTATTTC TCCCATAGAT CTTAATGTT CTTCTTAG CGTAAAGGAG AACGTGATATA CAAAGCAAAA AGATAACGAT GTTGGCAT GCGACTATAG
 M K N I A F L L A S M F V F S I A T N A Y A D I
 1 ^STII signal TIR ~1 ^Light chain
 501 CAGTTACCC AGTCCCCCGAG CTCCCTCTCC GCCTCTGTGG GCGATAGGGT CACCATCACC TGCGCGCAA GTCAAGGATAT TAGCAACTAT TTAAACTATGGT
 GTCAACTGGG TCAGGGGTC GAGGGGCTC GAGGGACACCC CGGAGACAGG CGCTATCCCA GTGGATGCTG ACCTGCGTT CAGTCCTATA ATCGTGTATA AATTGACCA
 26 Q L T Q S P S S L S A S V G D R V T I T C S A S Q D I S N Y L N W Y
 601 ATCAACAGAA ACCAGGAAA GCTCCGAAAG TACTGATTAA CTTCACCCCTC TCTCTTCACT CTGGAGTCCC TTCTCGCTTC TCTGGATCCG GTTGTGGAC
 TAGTTGTCTT TGGTCTTCTT CGAGGCTTTC ATGACTAAAT GAAGTGGGG AGAGAGGTGA GACCTCAGGG AAGAGCGAAG AGACCTAGGC CAGACCTG
 60 Q Q K P G K A P K V L I Y F T S S L H S G V P S R F S G S G S G T
 701 GGATTTCACT CTGACCATCA GCAGGTGCA GCCAGAAGAC TTGCAACTT ATTACTGTCA ACAGTATAGC ACCTGTTGGT GGAGCTTGG ACAGGGTAC
 CCTAAAGGTGA GACTGGTACT CGTCAGACGT CGGCTCTCTG AAAGCGTGTAA TAATGCACTG TCTCATATCG TGGCACGCCA CCTGCAAACCTG
 93 D F T L T I S S L Q P E D F A T Y Y C Q Q Y S T V P W T F G Q G T
 801 AAGGTGGAGA TCAAACGAAAC TTGGGTGCA CCATCTGTCT GCCTCTTCCC GCCATCTGTAT GAGCAGTTGA AATCTGGAC TGCTCTGT GTGTGCTG
 TTCCACCTCT AGTTGTCTG ACACCGACGT GTTAGACAGGA AGTAGAAAGG CGGTAGACTA CTGTCACCTTG TTAGACCTTG AGCAGACAA CACACGGAGC
 126 K V E I K R T V A A P S V F I F P P D E Q L K S G T A S V V C L L
 901 TGAATAACTT CTATCCAGA GAGGCCAAAG TACAGTGGAA GTGGGATAAC GCCCTCAAT CGGTAAACTC CCAGGAGGT GTCAAGAGGC AGGACAGCAA
 ACTTATGAA GATAGGGTCT CTCCGGTTTC ATGTCACCTG CGACCTATG CGGAGGTAA GCCATTGAG GTTGGCTTCAGTG TGCTGTGTT
 160 N N F Y P R E A K V Q W K V D N A L Q S G N S Q E S V T E Q D S K
 10001 GGACAGGACCTACAGCCCTA GCGACCCCT GAGCTGTGAGG AAAGGCAGACT CGAGCTGAAAC CAAAGTCTAC GCCTGGCAAG TGCTCTG
 CCTGTCGTTG ATGTCGGAGT CGTGTGGGA CTGCGACTCG TTTCGTTGAA TGCTCTGTTG GTTGGTAACTC CGGACGCTTC AGTGGTAACT
 193 D S T Y S L S S T L T L S K A D Y E K H V Y A C E V T H Q G L S

FIG. 4A

METHODS AND COMPOSITIONS FOR INCREASING
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1001 GGACAGCACC TACAGCCCTA GCAGCACCC TACAGCTGAGC AAAGCAGACT ACGAGAACCA CAAAGTCTAC GCCTGGAG AGTCAGCTAC TCACCCATCA GGGCCCTGAGC
193 CCTGTGTTGG ATGTGGGT CGTCTGGGA CTGCGACTCG TTTCGTTGTA TGCTCTTGT GTTTCAGTG CGGAGCTTC AGTGGGTAGT CCCGGACTCG
11101 TCGCCCGTCA CAAAGGCTT CAAAGGGGA GAGGTAAAT TAAATCTCT ACGCGGAGC CATCGTGGG AGCTGGTAC CGGGGATT AGGCCPAACG
AGCAGGAGT GTTCTCGAA GTTGTCCCT CTCACAAATA ATTAGGAGA TCGGCCCTGC GTAGCACCGC TCGAGCCATG GCCCCCTAGA TCGGGATTGC
226 S P V T K S F N R G E C O lambda to terminator^

1201 CTCGGTGGC GCCGGCGTT TTATTTGTG GCCGACGGGC ATCTGGATG AACTGTGTC GCAGGTAGAA GCTTTGGAGA TTATCGTAC TGCAATGCTT
GAGCCACGG CGGGCGAA AAAATAACAA CGGCTGCGG TAGGCTTAC TTGACACAG CGTCCATCTT AAATGGAGTG ACGTAGAA
1301 CGCAAATGG CGAACAGGG TTGATGATC AGGTAGAGGG GGCCTGTAC GAGGTAAAGC CCGATGCCAG CATTCCGAC GAGGATACGG
GGCTTATACC GCGTTTACT GGGTTACT GGGTTGTCGC AACTAATAG TCCATCTCCC CGGACATG CTCCATTG CGTACGGTC CTGCTATGCC
1401 AGCTGCTGCC CGATTAGTAA AGAAAGTAT TGAAGGATTC TCGTCAGTAA AAGTTATTC TTTCACAG CGTCAATAA GTTGTACGG CGAGACTTA
TCGAGCAGGC GCTAATGGAT TTCTTCATAA ACTTCCTAGG ACCAGTCATT TTTCATTAG AAAGTGTGACAGTATT CAACAGTGGC GGCTCTGAAT
1501 TAGTGCTTT GTTTTATT TTAATGAT TTGTAACTAG TAGGCAAGTT CACGTAAGGG ATTATGAG AAGAATATG CATTCTATGC GTAAAGGAGA
ATCAGGAAA CAAATAAA AAATACATA AACATTGATC ATGCGTCA GTGCAATTTC CCGATAGTC TTAAATCTC TTCTATAGC GTAAAGGAGA
M K K N I A F L L ^STII Signal TIR-1
1601 TGGATCTATG TTCGTTTTT CTATGCTAC AACCGCTAC GCTGAGGGTC AGTGGTGGAG GTCTGGCGGT GCCCTGGTC AGCAGGGGG CTOACTCCGT
ACCTAGATACA AGGAAAGAA GATAACGATG TTGCGCATG CGACTCAG TGACGACCT CAGACGCCA CGGACCCAG TCGGTCCCCC GAGTGAGGCA
10 A S M F V F S I A T N A Y A E V Q L V E S G G G L V Q P G G S L R start heavy chain
1701 TTGTCCTGTG CAGCTTCTGG CTATAACCTTG ACCAAACTATG GTATAACCTG GTTGTACTG GCCGGGGTA AGGGCTGGA ATGGTTGGAG TGGATTAAACA
AACAGGACAC GTCGAACAC GATAAGAACG GATATGGAAAG TTGGTGTATAC CATATTTGAC CCAGGCACTG CGGGGCCAT TCCCGACCT ACCTAACTTGT
43 L S C A A S G Y T F T N Y G I N W V R Q A P G K G L E W V G W I N T
1801 CCTATACCG TGAAACCCGCT ATCTGGGG ATTCAAAACG TGTTTCAACT TTTCCTTAG ACACCTCAA AAGGACAGCA TACCTGCAA TGAACAGGCT
GGATATGGCC ACTTGGCTGG ATAGGACGCC TAAAGTTGC AGCAAACTGA AAAGAAATC TGTTGGAGTT TCGTGTCTGT ATGGACGCTT ACTTGGAGA
77 Y T G E P T Y A A D F K R R F T F S L D T S K S T A Y L Q M N S L
1901 GCGGGCTAG GACACTGCCG TCTTAACTG TCGAAAGTAC CCGCACTATT ATGTAACGA GCGGAAGAGC CACTGGTATT TCGACGTTG GGGTCAAGGA
CGCGGACTC CTGTGAGGCC AGATAATGAC AGCTTTCATG GCGGTATAA TACACTTGT CGCCTTCTCG GTGACCATAA AGCTGCAAC CCCAGTCTCT
110 R A E D T A V Y Y C A K Y P H Y V N E R K S H W Y F D V W G Q G
2001 ACCCTGGTCA CGGTCTCTTC GGCTCCACC AAGGGCCAT CGGTCTTCCC CCTGGCACCC TCCTCCAGA GACCCCTCTGG GGGCACAGG GCCCTGGCT
143 T L V T V S S A S T K G P S V F P L A P S S K S T S G G T A A L G C
143 T L V T V S S A S T K G P S V F P L A P S S K S T S G G T A A L G C
1501 GCCTGGTCAA GGACTACTTC CGGAAACCGG TGACGGTGT GTGGAACCTA GGCGACCC TCGGGCGGT GACACCCPCTC CGGGCTCTC TACAGTCCTC
CGGACCAAGTT CCTATGAAG GGCTGGCC ACTGCCACG CACCTGGAGT CGGGGGACT GGTCGGCA CGTGTGGAG GGCAGCAAGG ATGTCAGGAG
177 L V K D Y F P E P V T V S W N S G A L T S G V H T F P A V L Q S S

FIG. 4B

METHODS AND COMPOSITIONS FOR INCREASING
ANTIBODY PRODUCTION
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2101 GGCTGGTCAA GGACTACTTC CCCGAAACGG TGACGGGTGTC GTGGAACCTCA GGGCCCTGA CCAGCGCGT GCACACCTTC CCGGCTGTCC TACAGTCCTC
 CGGACCACTT CCTGATGAAAG GGGTTGGCC ACTGCCAACG CACCTGAGT CGCGGGACT GGTGCGGCA CGTGTGGAAAG ATGTCAGGAG
 177 L V K D Y F P E P V T V S W N S G A L T S G V H T F P A V L Q S S

 2201 AGGACTCTAC TCCCTAGCA GCGTGGTGAC TG TGCCCTCT AGCAGCTGG GAACCGAG CTACATCTGC AACGTGAATC ACAAGCCCCAG CAACACCAAG
 TCCTGAGATG AGGGAGTCGT CGACCAACTG ACACGGGAGA TCGTGAACC CGTGGTCTG GATGTAGACG TTGACTTGTAG TGTTGGGGTC
 210 G L Y S L S V V T V P S S L G T Q T Y I C N V N H K P S N T K

 2301 GTGGACAGA AAGTTGAGCC CAAATCTTGT GACAAAACCT ACACATGCC ACCGTTCCA GCACCTGAAC TCGTGGGGGG ACCGTCAAGTC TTCCCTCTCC
 CACCTGTTCT TTCAACTCGG GTTGTAGAACA CTGTTTGTAG TGTTGACGGG CGTGGACGGGT CGTGGACTTG AGGACCCCCC TGGCAGTCAG AAGGAAAGG
 243 V D K K V E P K S C D K T H T C P P C P A P E L L G G P S V F L F P

 2401 CCCCAAAACC CAAGGACACC CTCATGATCT CCCGGACCCC TGAGGTACA TGCGTGTGAG TGCGTGTGAG CCACGAAGAC CCTGAGGTCA AGTCAACTG
 GGGGTGTTGG GTTCTGTGG GAGTACTAGA GGCGCCTGGG ACTCAGTGT ACGCACCCAC ACCCTGACTC GTTGTCTCTG GGACTCCAGT TCAAGTTGAC
 277 P K P K D T L M I S R T P E V T C V V V D V S H E D P E V K F N W

 2501 GTACGGGAC GGGGTGAGG TGCATAATGC CAAGACAAAG CCGGGGGAGG AGCAGTACAA CAGGAGTAC CGGACGTAC CGTGTGGTCA GCGTCTCAC CGTCTGCAC
 CATGCACTG CGGACACTCC AGCTATTAG GTTCTGTTC AGTATTAG TTGTCACTT GTCTGCATG GCACACCCAGT CGCAGGAGTG GCAGGACGTTG
 310 Y V D G V E V H N A K T K P R E E Q Y N S T Y R V V S V L T V L H

 2601 CAGGACTGGC TGAATGGCAA GGAGTACAG TGCAAGGGCT CCAACAAAGC CCTCCCAAGCC CCGATCGAGA AAACCATTC CAAAGCAAA GGGCAGCCCC
 GTCCCTGACCG ACTTACCGT CCTCATGTT ACGTTCAGA GTTGTGTTTCG GGAGGGTCTGG GGGTAGCTCT TTGGTAGAG GTTGGTTT CCGGTGGGG
 343 Q D W L N G K E Y K C K V S N K A L P A P I E K T I S K A K G Q P R

 2701 GAGAACACA GGTGTACACC CTGGCCCCAT CCCGGAAAGA GATGACCAAG AACCAGGTCA GCGTGCACCGT CCTGGTCAA GGCTCTTATC CCAGCGACAT
 CTCTTGTTG CCACATGTGG GACGGGGGTA GGGCCCTTCT CTACTGGTCTGTTG ATGTTCTGGT CGGACTGGAC GGACCTGTTT CCGAGATAG GGTGCTGTA
 377 E P Q V Y T L P P S R E E M T K N Q V S L T C L V K G F Y P S D I

 2801 CGCGGTGGAG TGGGAGAGCA ATGGGCAACG GGAGAACAC TACAAGACCA CGCCTCCGT GCTGGACTCC GACGGCTCTC TCTTCCTCTA CAGCAAGGCTC
 GCGGCACTC ACCCTCTCGT TACCCCTCGG CCTCTCTGG ATGTTCTGGT GCGGAGGGCA CGACTGAGG AGAAGGAGAT GTCGTTGAG
 410 A V E W E S N G Q P E N N Y K T T P P V L D S D G S F F L Y S K L

 2901 ACCGTGACA AGAGCAGGTG GCAGCAGGG AACGTCTCTCATGCTGGAG GCTGTGACA ACCACTAC GCAGAAAGGC CTCTCCCTGT
 TGGACACTGT TCTCGTCCAC CGTCGTCCTC TTGAGAAGA GTACAGGGCA CTACGACTC CGAGACGTGT TGTTGATGT CGTGTGGAGCA
 443 T V D K S R W Q Q N V F S C S V M H E A L H N H Y T Q K S L S

 3001 CTCCGGTAA ATAAGCATGC GACGGCCCTA GAGTCCCTAA CGCTGGGTG CGCGGGGGCG TTTTTTATG TAACTCATG TTGACAGGT TATCATCAT
 GAGGCCATT TATTGTACG CTGCGGGAT CTCAAGGAT GCGAGCCAAC GGGGCCCGCG AAAAATAAC ATTGAGTAC AAATGAGTCA ATAGTAGCTA
 477 P G K O

^lambda terminator

3101 AAGCTTAAAT GGGTAGTTT ATCACAGTTA AATGCTAAC GCAAGTCAGGC ACCCTGTTAG AAATCTAACAA ATGCGCTCAT CGTCATCCTC GGCACCCGTC
 TTGAAATTA CGCCATCAA TAGTGTCAAT TTACGATG CGTCAGTCG TGGACATAC TTAGTATGT TACGCGAGTA CGAGTAGGAG CGTGGGGGT

 3201 CCCTGGATGC TGTAGGGATA GGCTGGTTA TGCGGGTACT GCCGGGCCTC TTGAGGAGG AACGC
 GGGACCTACG ACATCCGTAT CGGACCAAT AGGGCCATGA CGGCCCGGAG AACGC

FIG. 4C

METHODS AND COMPOSITIONS FOR INCREASING
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3201 CCCTGGATGC TGTAGGCGATA GGCTTGGTTA TGCCGGTACT GCCGGGCCCTC TTGCG
GGGACCTTACG ACATCCGTAT CGAACCAAT ACGGCCATGA CGGCCGGAG AACGC

FIG. 4D

METHODS AND COMPOSITIONS FOR INCREASING

ANTIBODY PRODUCTION

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1 ATCGATGAAAT TCATGCTGTG GTGTCATGTT CGGGTGTGCG CAGGGTATCGC CGACTGACAG CGACCAAT GCTTCCTGGCC TCAGGGAGCC
TAGCTACTA ACTACGACAC CACAGTACCA GCACTAGCGC GTCCCAAGGC TGCGCTGAGA GCTGACGTC CACGTTGTTA CGAAGACCGC AGTCCCTCGG
^Clai

101 ATCGGAAGCT GTGGTATGGC TGTGAGGTG CTAAATCACT GCTAAATTG TGTCGCTCAA GGCGCACTCC CGTTCTGGAT ATGTTTTTG GCGCCGACAT
TAGCTTCA CACCATACCG ACACGTCCAG CATTAGTGA CGTATTAAGC ACAGCGAGTT CGCGGTGGG GCAAGACCTA TTACAAAAA CGGGGTGTA
201 CATAACGGTT CTGGCAAAATA TTCTGAAATG AGCTGTGAC ATTAAATCAT CGAACTAGTT TAATGTGAGC AATGTGAGC GGATAAACAT TAAGCTTAGG
GTATGCTTAA GACCGTTTAT AAGACCTTAC TCGACAACTG TTAACTGTA GCTTGATCAA ATTACACACC TTAACTCTG CCTATTGTTA ATTGTAATCC

301 ATTCTAGAGG GAGATTAAAT GAAATCACTG TTAAAGTAA CGCTGCTGCC GACCAAAATG GCCGTTGCC TGCAGGCC AACATCTTT GCTGCTGAAG
TAAGATCTCC CTTCTAAATA CTTTAGTGA AAATTCAATT GCGACGACCG CGGTGTTAC CGGCAACCGG ACGTAGTGG TTAGTGAAGA CGACGACTTC
1 M K S L F K V T L A T T M A V A L H A P I T F A A E A
^Ecpa start

401 CTGCAAAACC TGCTACAGCT GCTGACGCC AAGCAGCGTT CAAAATGAC GATCAGAAAT CAGCTTATGC ACTGGTGGC TCGCTGGTC GTTACATGGG
GACGTTGG ACGATGTCGA CGACTGTGT TTCTGCAA GTTTTACTG CTAGCTTAA GTGAAATAGC TGACCCACGG AGCGACCCAG CAATGTAACCT
29 A K P A T A A D S K A A F K N D D Q K S A Y A L G A S L G R Y M E

501 AAACTCTTA AAAGAACAAAG AAAAAGCTGG CATCAAACTG GATAAAGATC AGCTGATCGC TTGTTGTTGAG CTATTCCTAG TCGACTAGCG ACCACAAGTC CTACCTAAC
TTGAGAGAT TTCTCTGTC TTTTGACCC GTGTTGAC CTTATCTAG TCGACTAGCG ACCACAAGTC CTACCTAAC GACTATTCTC GTTGTGAGGG
62 N S L K E Q E K L G I K L D K D Q L I A G V Q D A F A D K S K L S

601 GACCAAGAGA TCGAACAGAC TCTACAAAGCA TTCTGAAAGCTC GCGTGAAGTC TTCTGCTAG GCGGAGATGG AAAAAGACGC GGCTGATAAC GAGGCCAAAG
CTGGTTCTCT AGCTTGTCTG AGATGTCTG AGCTTGTCTG AGCTTGTCTG AGCTTGTCTG AGCTTGTCTG AGCTTGTCTG AGCTTGTCTG
95 D Q E I E Q T L Q A F E A R V K S S A Q A K M E K D A A D N E A K G

701 GAAAGAGTA CGCGGAGAAA TTGGCCAAAG AGAAAGGTGT GAAACACCTCT TCAACTGGTC TGGTTTATCA GGTAAGTAGAA GCGGTTAAG GCGAAGGACC
CATTTCTCAT GCGCTCTTT AAACGGTTTC TCTTTCACAA CTTTTGGAGA AGTGTACCG AGCCAATAGT CCATATCTT CGGCCATTTC CGCTTCTGG
129 K E Y R E K F A K E K V K T S S T G L V Y Q V V E A G K G E A P

801 GAANGACAGC GATACTGTG TAGTGAACTA CAAGGTACG CTGATCGAG GTAAAGAGTT CGACAACCTCT TACACCGGT GTGAAACCGGT TTCTTTCGCT
CTTCTGTG CTATGACAAC ATCACTGTG GTTCCATGC GACTAGCTGC CATTCTCAA GTGTTGAGA ATGCGGCAC CACTGGCGA AGAAAGGCA
162 K D S D T V V V N Y K G T L I D G K E F D N S Y T R G E P L S F R

901 CTGGACGGTG TTATCCGGG TTGGACAGAA GGCTGAGA ACATCAAGAA AGGGGTAAG ATCAAACCTGG TTATCCACCA AGAACTGGCT TACGGCAAAG
GACCTGCCAC AATAGGGCCCC AACCTGCTTT CCAGACTCTT TCCGCCATTC TAGTTGAGC AATAAGGTGG TCTTGACCGA ATGCCGTTTC
195 L D G V I P G W T E G L K N I K K G K I K L V I P P E L A Y G K A

FIG. 5A

METHODS AND COMPOSITIONS FOR INCREASING
ANTIBODY PRODUCTION
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1001 CGGGTGTTCG GGGGATCCCA CGGAATTCTA CCCTGGTT TGACGTAGAG CTGCTGGATG TGAAACCAGC GCCGAGGCT GATGCCAAAGC CGGAAGCTGA
GCCCTAGGG CCCCTAGGT GCCTTAAGAT GGGACCAA ACTGCATCTC GACGACTAC ACTTGGTCG CGGCTTCGA CTAAGTTTCG GCCTTCGACT
229 G V P G I P P N S T L V F D V E L L D V K P A P K A D A K P E A D

1101 TCGGAAAGCC GCAGATTCTG CTAAAAATA AAAGTAGC
ACGGCTTCGG CGTCAGAC GATTTTAT TTTCGATCG
262 A K A A D S A K K O ^NheI

FIG. 5B

METHODS AND COMPOSITIONS FOR INCREASING

ANTIBODY PRODUCTION

Attorney Dock

. GATTCACT TCTCCATACT TTGGTAAAGG AAATACAGAC ATGAAAATC TCATGTGTA GTGTTATT AAGCTGCC AAAAGAAGA AGAGTCGAAT
 CTTAAGTGA AGAGGTATGA AACCTATTCC TTATGTCTG TACTTTAG AGTAACGACT CAACAATAAA TTGAAACGGG TTTTCTCT TCTCAGCTTA
 ^ ECORI

101 GAACTGTGCG CGCAGGTTAGA AGCTTGGAG ATTATCGTCA CTGCAATGT TCGCAATATG GGGCAAAATG ACCAAAAGGG GTTGTATTGAT CAGGTAGAGG
CTTGACACAC GCGTCACACT TCGAACCTCT TAATAGCATG GACGTTACA AGCGTTATAAC CGGGTTTAC TGTTTGTGCC CAACTAACTA GTTCCATCTCC

201 GGGCGCTGTA CGAGGTAAAG CCCGATGCCA GCATTCCCTGA CGACGATAG CAGCTCTGC GGCTTAAGT AAAGAAGTT TTGAGCATC CTCTGTCAGTA
 CCCGCGACTT GCTCCATTTC GGGCTPACGGT CCTAAGGACT GCTGCTATGC CGCTAATGCA TTTCCTCTAAT AACCTCTGTA GGGCAGTCAT

301 AAAAGTTAACTTCAAC GCTGCAAA ACTGGTACG GCGGAGCTT ATAGTGCTT TTGTAACTA TTGAACCTA GTAACGAACTT
TTTCACATTGTT CGACAGTATT TCAACAGTGC CGGCTCTCAA TATCAGGAA ACGAAATAA AAAATACAT AACATTTGAT CTGCGTTCA

1 TACGTAAAGGGTATTA GAAATTGAA AAGGAATT GCATTTCCTC
 AGTGCATTTC CTCCTATAG CGTAAAGAG AACGTAGATA CAGCAAAA AGATAAGAT GTTGGCAT GCGACTATAG
 M K N I A F L L A S M F V F S I A T N A Y A D I

601	ATCAAACGAA	ACCGGGAAA	GCTCGGAAG	TACTGATTAA	CTATGGTACT	AGTCTGGCTT	AAGGAGTCCC	TTCTCGCTTC	TCTGATCCG	GTCTGGGAC
	TTAGTGTCTT	GGGCCCTTT	CGAGGCCTTC	ATGACTAAAT	GATACTGATG	TCAGGGCAC	TTCCTCAGGG	AAGAGCGAAG	AGACTTAGGC	CAGACCCCTG
60	O O K	P G K	A P K	V I V	V A T	S I	A F G V	D S P	F S	S C T

93 D Y T L T I S S L Q P E D F A T Y Y C L Q H G E S P W T F G O G T
 94 CTTGACCATCA GCAGCTGTGCA GCGGAAGAGAC TTGGCAACTT ATTACTGTCT GAGTCATCCAT GGAGATTGG ACAGGGTAC
 CCTAATGTGA GACTGGPAGT CGTGAGACGT CGGTCTTCCTG AAGCCTGTAA TAATGACAGA AGTCGTGCCCT CTCAGGGTA CCTCTAAACC TGTCATCGG

301 AAGGTGGAA TCAAAGAAC TGTCGCTGCA CCATCTGCT TCATCTGCC GCGATCTGAT GAGCAGTGA AATCTGGAAAC TGCTCTGTT GTGTGCCCTGC
 302 TTCCACCTCT AGTTTGCTG ACACCCGACTG GGTAGACAGA AGTAGAAGGG CGGTAGACTA CTCGTCAACT TTAGACCTTG ACGNAGACAA CACACGGGACG
 303 K V E I K R T V A A P S V F I F P P S D E Q L K S G T A S V V C L L

160 N N F Y P R E A K V Q W K V D N A L Q S G N S Q E S V T E Q D S K
 161 TAATAACTT CTATCCAGA GAGGCCAAG TAGCTGGAA GGTTGGATTAC GCCTCCAACT CGGGTAACCT CCGGGGAGT GTTACAGAGC AGGACAGCAA
 162 ACTATGAA GATAGGTCT CTCCGGTTTC ATGTCACCTT CCACCTATTG CGGGAGGTAA GCCCATGGAG GGTCCTCTCA CAGTGTCTCG TCTGTCTGTT

FIG. 6A

METHODS AND COMPOSITIONS FOR INCREASING

ANTIBODY PRODUCTION

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1001 GGACAGGACC TACAGGCCA GCGGCCCTT GACGCTGAGC AAAGCAGACT ACGAGAAACA CAAAGTCTAC GCCTGGAG AGTCGGCTAC GGGCTGAGC
193 CCTGTCGTGG ATGTCGGAGT CGTCGGGG CTGGCTCTGA TGCTCTCTG TTTCGACTG AGTCAGATG CGGAGGCTTC AGTGGTAGT CCCGGACTCTG
1101 TGCCCCGTC CAAAGGCTT CAACAGGGGA GAGTGTAA TAAATCCTCT ACGCCGGAG CATCGTGGCG AGCTGGTAC CGGGGGATCT AGGCCTAACG
AGCGGGCACT GTTCTCGAA GTTCGCCCT CTCACAATTAA ATTAGGAGA TGAGCCATG TGAGCCCTAGA TCCGGATTGC
226 S P V T K S F N R G E C O lambda to terminator^

1201 CTCGGTGGCC GCCGGGGTT TTTATTGTT GCGGACGCC ATCTGACTG CACGGTGAC CAATGGTCTT GGGGTGAGG AGCCATGGGA AGCTGGGTA
GAGGCCAACCG CGGGCCCAA AAAATRACAA CGGCTGCGG TAGAGCTGAC GTGCCACGTG GTTACCAAAGA CGCGATCTCG TCGGTAGCCT TCGACACCAT

1301 TGGCTGTCA GGTCTAAAT CACTGCATAA TTCTGCTGC TCAAGGGCA CTCCCCGTCTT GGATAATGTT TTTGGCCCG ACATCTAAC GGTTCTGGCA
ACCGACACGT CCAGGATTTA GTGAGCTTAACTT AAGGACACGG AGTTCGGGT GAGGGCAGA CCTATTACAA AAAAGCGGGC TGAGTATTG CGAGACCGGT

1401 AATATTCTGA AATGAGCTGT TGACAAATTAA TCACTGAACT AGTTAAATGT GTGGAAATTGT GAGGCGATAA CAATTAAGCT TAGGATCTAG AATTATGAAAG
TTATAAGACT TTACTGACA ACTTTAAATT AGTAGCTTGA TCAAATTACA CACCTTACA CTCGGCTATT GTTAATTGCA ATCCPAGATC TPAATACITC
1 Start STII signal TIR 3^ M K

1501 AGAAATATG CGTTCTACT TGCCCTATG TTGTCCTTCTT CTATAGCTAC AAACCGGTAC GCTGAGGTT AGCTGGTGA GTCTGGGGT GGCTGGTGC
TTCTTAAAC GCAAGGATGA ACGGAGATAC AAACAGAAA GATATGATG TTTCGCGATG CGACTCTAACG TGACCCACT CAGACGCCA CGGACCCAG
3 K N I A F L L A S M F V F S I A T N A Y A V Q L V E S G G G L V Q anti-TF heavy chain

1601 AGCCAGGGG CTCACTCGGT TTGTCCTGTG CAGCTTCTGG CTTCATAATT AGGAGTACT ACATGACTG GTCTGGTCA GCCCCGGTA AGGGCCCTGG
TCGGTCCCCC GAGTGGCA AACGGACAC GTCGAAGAAC TCTCTCATGA TGTCAGGTAC CCAGGCAGTC CGGGGCCAT TCCGGACCT
37 P G G S L R L S C A A S G F N I K E Y Y M H W V R Q A P G K G L E

1701 ATGGGTTGGA TTGATTGATC CAGGCCAAGG CAACACGATC TATGCCAGGA AGTCCAGGA CGCTGGCACT ATAAGCGCTG ACAATTCAA AACACAGCA
TACCCAACTT AACTACTAG GTCTCGTCC GTGTCGTGAG ATACTGGGT TCAAGGTCTT GGCAAGGTGA TATTGCGAC TGTAAGGTT TTGTTGTCGT
70 W V G L I D P E Q G N T I Y D P K F Q D R A T I S A D N S K N T A

1801 TACCTGCGAGA TGAACAGCCT GCGTGTGAG GACACTGCGC TCTATTATTG TGCTGAGAC ACGGCCGCTT ACTTGACTA CTGGGTCAA GGAAACCTGG
ATGGACGTCT ACTTGCGGA CGCGGACTC CTGTGACGGC AGATATTAAC AGGAGCTCTG TGCCGGGAA TGAACTGAT GACCCCGTT CCTTGGGAC
103 Y L Q M N S L R A E D T A V Y Y C A R D T A Y F D Y W G Q G T L V

1901 TCACCGTCTC CTGGGCTCC ACCMAGGGCC CATCGGTCTT CCCCTGGCA CCCTCCTCCA AGGGCACCTC TGGGGCACA GCGGCCCTGG GCTGCCTGG
AGTGGCAGAG GAGGCCGGG TGGTCCCGG GTAGGCCAGA GGGGACCCGT GGGGAGGGT TCTCGTGGAG ACCCCGGTT CGCCGGGACCC CGGGGACCA
137 T V S S A S T K G P S V F P L A P S S K S T S G G T A A L G C L V ^Apal

2001 CAAGGACTAC TTCCCCAAC CGGTGACGGT GTCGTGGGAC TCAGGAGGCC TGACCAAGGCC CGTGCACACC TICCCGGCTG TCCTACAGTC CTAGGACTC
GTTCTGTAG AAGGGGTTG GCCACTGCCA CAGCACCTTG AGTCCCCGGG ACTGGTGGCC GCACGTGGG AAGGCCGAC AGGATGTCAG GAGTCCTGAG
170 K D Y F P E P V T V S W N S G A L T S G V H T F P A V L Q S S G L

FIG. 6B

METHODS AND COMPOSITIONS FOR INCREASING

ANTIBODY PRODUCTION

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2101 TACTCCCTCA GCAGGGCTGT GACGTGCCCC TCTAGGAGCT TGGGACCCCA GACCTACATC TGCAAGTGA ATCACAAAGCC CAGAACACACC AAGGGGGACA
ATGAGGGAGT CGTCGGACCA CTGACACGGG ACATCGTCA ACCTCGGGGT CTGGATGTAG ACGTGCACT TAGTGTGCG GTCTGTGCG TTCCACCTGT
203 Y S L S V V T V P S S L G T Q T Y I C N V N H K P S N T K V D K

2201 AGAAAATGTA GCCCAAATCT TGAGACAAA CTACACATG CCCACCGTGC CCAGCACCTG AACTCTGGG GGGACCGTCA GTCTTCTCT TCCCCCAA
TCTTCACT CGGGTATAGA ACAGTGTAC GGGTGTGTT GGGTGTGAC GGGTGGACG GGTGTTGAC TTGAGGACCC CCCTGGCACT CAGAAGGAGA AGGGGGTT
237 K V E P K S C D K T H T C P P C P A P E L L G G P S V F F L F P P K

2301 ACCCAAGGAC ACCCTCATGA TCTCCGGAC CCTGAGGTC ACATGGTGG TGTTGGACGT GAGGCCACGAA GACCTGAGG TCAAAGTCAA CTGGTACGTG
TGGGTTCTGT TGGGAGTACT AGGGGCTTG GGAACTCCAG TGTAACGAC ACCACCTGCA CTCGGTGCCT AGTTCAGTT GACCATGCA
270 P K D T L M I S R T P E V T C V V V D V S H E D P E V K F N W Y V

2401 GACGGGTGG AGGTGCATAA TGCCAAGACA AAGCCGGGG AGGAGGAGTA CAACAGCAG TACCGTGTGG TCAGGTCTCT CACCGTCTG CACAGGACT
CTGCGGCACC TCCACGGATT AGGGTCTGT TCTCGTCACT GTTGTGTCAT ATGGCACCC AGTGGAGGA GTGGCAGGAC GTGGTCTG
303 D G V E V H N A K T K P R E E Q Y N S T Y R V V S V L T V L H Q D W

2501 GGCTGAATGG CAAGGAGTAC TTCACCTTG AGGGTGTGG AGGATGCAACAA AGCCCTCCCA GCCCCATCG AGAAAACCAT CTCCAAGCC AAAGGGAGC CCCGAGAAC
CCGACTTACG GTTCCCTATG TTCACTTCC AGGGTGTGGT TOGGGAGGGT CGGGGTGAC TCTTGTGTA GAGGTTCTGG TTTCCTCTGG GGGCTCTTGG
337 L N G K E Y K C V S N K A L P A P I E K T I S K A K G Q P R E P

2601 ACAGGTGTAC ACCCTGGCCC CATCCGGGA AGAGATGACC AAGAACCGGG TCAGCCTGAC CTGCCCTGGTC AAAGGCTCT ATCCAGGGA CATCGCCGTG
TGTGACATG TGGGACGGG GTAGGGCCCT TCTCTACTGG TTCTGGTC AGTGGACTG GACGGACCAAG TTTCGAAGA TAGGGTCTG
370 Q V Y T L P P S R E E M T K N Q V S L T C L V K G F Y P S D I A V

2701 GAGTGGAGA GCAATGGGA GCGGAGAAC ACTACAGA CCACGGCTTC CGTGTGAC TCCGACCGCT CCTTCTCTCT CTACAGCAAG CTACCGTGG
CTCACCCCTCT CGTTACCCCT CGGCTCTTG TGTATGTTCT GTGCTGCTG AGGCTGCGA GGAGAAGGA GATGTCGTC GAGTGGCACC
403 E W E S N G Q P E N N Y K T T P P V L D S D G S F F L Y S K L T V D

2801 ACAGAGCAG GTGGAGGAG GGGAACTCT TCTCATGCTC CGTGTGCTG GAGGCTCTGC ACAACCACTA CACCGAGAAG AGCCTCTCCC TGTCCTCGGG
TGTCTCGTC CACCGTCGTC CCCTGGAGA AGGTACGAG GCACATACGTA CTGGAGGAGC TGTTGGCTAT GTGGCTCTTC TGAGGAGGG ACAGAGGCC
437 K S R W Q Q G N V F S C S V M H E A L H N H Y T Q K S L S P G

2901 TAATAAGCA TGGGAGGGCC CTAGAGTCCC TAACTGCTCGG TTGCGCCGG GCCTTTTA TTGTTAACCT ATGTTGACA GTTATCATC GATAAGCTT
ATTATTCTGT AGGCTGCCCC GATCTCGGG ATTGGAGGCC AACGGGGCC CGCAAAAT AACAAATTGAG TACAAACTGT CGAATAGTG CTATTGAAA
470 K O

3001

FIG. 6C

METHODS AND COMPOSITIONS FOR INCREASING
ANTIBODY PRODUCTION
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1 GAATTCACT TCTCCATACT TTGGATAAGG AAATAACAGAC ATGAAAAAATC TCATTGTGTTT AAGCTTGCCC GTTGTGTTTT AGTAAAGCAT CAACAATAAA TTGGAAACGGG TTTTCCTCT TCTCAGCTTA
CTTAACTTGA AGGAGTATGA AACCTATTC TTTATGTCTG TACTTCTTGG AGTAAAGCAT CAACAATAAA TTGGAAACGGG TTTTCCTCT TCTCAGCTTA
101 GAACTGTGTG CGCAGGTTAGA AGCTTGGAG ATTATCGTCA CTGCAATGTT TC GGCAATATG GGCACAAATG ACCAACAGCG GTTGAATTGAT CAGGTAGGG
CTTGACACAC GGGTCCATCT TCGAAACCTC TAATGGAGT GACGTGTTAGA AGCGTTTAC CGCCTTAC CGCCTTAC CGCCTTAC CGCCTTAC CGCCTTAC
201 GGGGGCTGTA CGAGGTAAG CCCGATGCCA GCATTCCTGA CGACGATAG GAGGTAGT GCGATTAGT AAAGAGTTA TTGAGGATC CTCGTCAGTA
CCCCGACAT GTCATTC GGGTCACTGCTT GGTAGGACT GCTGCTATGC CTCGACGCG CGCTAATGCA TTTCCTCAAT AACTCTGAG GAGCAGTCAT
301 AAAAGTTAAT CTTTCAACA GCTGTCATCAA AGTGTGTCAG GCACGAGCTT ATAGTCGCTT TTGTAACTA GTTGTAACTA GTTGTAACTA
TTTTCAATTA GAAAAGTTGT CGACAGCTTATT TCAACAGTGC CGGCTCTGAA TATCGGAA ACACAAATTA AAACATTGAT CATGCCCTCA
401 TCGTAAAGGTTATTA GAAATTGAA AAAGAAATTC GCATTTCTC TTGCTATCTAT TTGCTGTTTT TCTATGCTTA CAAACGCGTA CGCTGATATC
AGTGCATTTT TCCCATAGAT CTTAACTTT TTCTTATAG CGTAAAGGAAG AACGTAGATAA CAAGGAAAA AGTAAAGCAT GTTGGCAT GCGACTATAG
M K N I A F L L A S M . F V F S I A T N A Y A D I
1 ~ Start STII signal TIR 7
anti-tissue factor light chain^
501 CAGATGACCC AGTCCCCGAG CTCCCTGTCC GCCTCTGTGG GCGATAGGGT CACCATCACCG TGCAAGGCCA GTGGGACAT CAAGGCTAT CTGAACTGGT
GTCATCTGGG TCAGGGGGTCAGGGGAGG CGGAGACACC CGGTATOCCA GTGGTAGTGG ACGTCTGGT CAGGGCTGTA GTTCTGATA GACTGACCA
26 Q M T Q S P S L S A S V G D R V T I T C R A S R D I K S Y L N W Y
60 Q Q K P G K A P K V L I Y Y A T S L A E G V P S R F S G S G T
601 ATCAACAGAA ACCAGGAAA GCTCCGAAAG TACTGATTA CTATGCTACT AGTCTGCTG AAGGAGTCCC TCTCTGCTTC TCTGGATCCG GRTCTGGAC
TAGTTGTCTT TGGTCCCTT CGAGGCTTTC ATGACTAAAT GATACGATGA TCAGGAGCAGC TTCCCTAGGG AAGAGCGAAG AGACCTAGGC CAAGACCCCTG
D Y T L T I S S L Q P E D F A T Y C L Q H G E S P W T F G Q G T
701 GGATTACAT CTGACCATCA GCAGTGTGCA GCCAGAAAGAC TTGCGAACTT ATTACTGTCT TCAGGACGGA GAGTCTCCAT GGACATTGG ACAGGGTAC
CCTAAATGCA GACTGTGTT CGTGGAGCT CGGTCTTCTG AAGGGTTGAA TAATGACAGA AGTCTGCTCT CTCAGGGTTA CCTGTAACCC TGTCCTCATGG
93 D Y T L T I S S L Q P E D F A T Y C L Q H G E S P W T F G Q G T
801 AGGGGGAGA TCAAAACGAC TGTGGGTGCA CCATCTGCTTC TCAATCTCCC GGCATCTGAT GAGGAGTTGA AATCTGGAAC TGCTCTGTT GTGTGCTGC
TTCCACCTCT AGTTGGCTG AGCCTGACCT GGTAGAGA AGTAAAGGG CGGTAGACTA CTGCTCAACT TTAGACCTTG ACAGGACAA CACACGGAG
126 K V E I K R T V A A P S V F I F P P S D E Q L K S G T A S V V C L L
901 TGAATAACTT CTATCCAGA GAGGCCAAAG TACAGTGAA GGTGGATAAC GGCCTTCAAT CGGGTAACTC CCAGGAGAGT GTCAAGAGC AGGACAGCAA
ACTTATGAA GATAGGGTCT CTCCGGTTTC ATGTCACCTT CCACCTTATG CGGGAGTTA GGCCTTCAAT CAGTCCTCG TCCTGTCGTT
160 N N F Y P R E A K V Q W K V D N A L Q S G N S Q E S V T E Q D S K
1001 GAGACGGACCC TACAGCCTCA GCAGCACCCCT ATGTCACCTT CCACCTTATG CGGGAGTTA GGCCTTCAAT CAGTCCTCG TCCTGTCGTT
CCTGTCGTTGG AGTGGAGT CGTGTGGAA CTGCGACTCG TTTCGTCAGT GTCACCATCA GGGCTGAGC
193 D S T Y S L S S T L T L S K A D Y E K H K V Y A C E V T H Q G L S

FIG. 7A

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ANTIBODY PRODUCTION

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1101 TCGCCCGTCA CAAAGACCTT CAAAGGGGA GAGTGTAAAT TAATCCTCT AGGCCGGAGG CATCGGGCG AGCTCGGTAC CGGGGATCT AGGCCTAACG
AGGGGGGGGT GTTGTGAA GTTGTCCCCT CTCACATTAA ATTAGGAA TGCGGCTTCG GTGCCACCGC TCAGCCATG GGGCCATG TCCGGATTCG
226 S P V T K S F N R G E C O

lambda to terminator^

1201 CTGGGTGGCC GCCGGGGTTT TTGTATTGTT GCGGAGGGC ATCTGACTG CACGGTGAC CAATGCTCTT GGGTCACGGC AGCCATCGGA AGCTGGGTA
GAGGCCAACGG CGGGCGCAA AAAATAACAA CGGGCTGGC TAGGGCTGAC GTGGCCACCTG GTCAGAAGA CGCAGTCGCG TCGGTAGCCT TGCACACCAT

1301 TGGCTGTGCA GGTCCTAAT CACTGCATAA TTGGTGTGCG TCAAGGGCA CTCCCGTTCT GGATAATGTT TTTTGGCG ACATATAAC GGTTCTGGCA
ACCGACAGT CCAGGTTA GTGAGTAA TTGGTGTGCG AGTTCGGGT GAGGGGAGA CCTATTACAA AACGGCGC TGAGTATG CCAAGACCGT:

1401 AATATTCTGA AATGAGCTGT TGACAAATTAA TCACTGAACT AGTTAACTG GTGGAATTGT GAGGGATAA CAATTAAGCT TAGGATCTAG AATTATGAG
TTATAAGCT TTACTGACA ACTGTAATT AGTAGCTGA TCAATTACA CACCTTAACA CTCGCTATT GTTAATTGA ATCTTAGTC ATTACTAGTC TTAACTACTC
1

Start STII signal TIR 3^

1501 AAGAATATG CGTTCTACT TGCCTCTATG TTGTCTTT CTATAGCTAC AAACGGCTAC GCTGAGGTTG CTCAGGTTGAG GGGCTGGGT GGGCTGGG
TTCTTATPAC GCAAGGATGA ACCGGATAC AACAGAAAA GATATGATG TTTCGGCTG CGACTCRAAG TCGACCACCT CAGACGCCA CGGACCCAG
3 K N I A F L L A S M F V F S I A T N A Y A E V Q L V E S G G G L V Q
anti-tissue factor heavy chain with cys to ser in hinge^

1601 AGCCAGGGGG CTCACCTGG TTGCTCTGTG CAGCTCTGG CTCACATTAA AAGGAGTACT ACATGCACTG GGTCCTGTAG GGGCCGGTA AGGGCTGTGA
TGGTCCCCC GAGTGGGCA AACAGGACAC GTGGAAGACC GAGNTATAA TTCTCTGAGA TGATGGTAC CGAGGAGCTT TGGGGGACAT TGGGGGACCT
37 P G G S L R L S C A A S G F N I K E Y Y M H W V R Q A P G K G L E

1701 ATGGGTGGA TTGATGATC CAGAGCAAGG CAACACGATC TATGACCCGA AGTTCAGGA CGCTGCACT ATAAGGCTG ACATTCAA AACACACGCA
TACCCAACTT ACTRACTAG GTCCTGTTCC GTTGTGTAG ATACTGGCT TCAAGGCTT GGCAAGGTGA TATTGGCAC TGTTAAGGTT TTGTGTGTGT
70 W V G L I D P E Q G N T I Y D P K F Q D R A T I S A D N S K N T A

1801 TACCTGGAGA TGAACAGGCT GCGTGTGAG GACACTGCGC TCTATTATTG TGCTCGAGAC ACGGCCGCTT ACTTGACTA CTGGGGTCAA GGAACCCCTGG
ATGGACGCTT ACTTGTGGGA CGACGACTC CTGTGAGGG AGATAATAAC ACGRAGCTT TGCGGGCAA TGAAGCTGT GACCCCAAGTT CCTTGGGAC
103 Y L Q M N S L R A E D T A V Y Y C A R D T A A Y F D Y W G Q G T L V

1901 TCACCGTCTC ACCAAGGGCC CATGGGTCT CCCCTGGCA CCCTCCTCCA AGAGCACCTC TGGGGGACA GCGGCCCTGG GTGCGCTGT
AGTGGAGAG GAGGGAGG TGTTCCGG GTAGCCAGA GGGGACCGT GGGGGAGGT TCTGTGGAG ACCCCCGTGT CGACGGGACG CGACGGGACCA
137 T V S S A S T K G P S V F P L A P S S K S T S G G T A A L G C L V

2001 CAAGGACTAC TTCCCCAAC CGGTGAAAC TCGTGTGCCC TGACCAACCC CGTGCACACC TTCCGGCTG TCCTACAGTC CTCAGGACTC
GTTCTGTG AAGGGCTTG GCCACTGCA CAGCACCTG AGTCGGGG ACTGGTGG GCACGTGTGG AAGGGCCGAC AGGATGTAG GAGTCCTGTGAG
170 K D Y F P E P V T V S W N S G A L T S G V H T F P A V L Q S S G L

2101 TACTCCCTCA GCAGGGGGT GACTGTGCC TCTAGGAGCT TGGGCACCA GACCTACATC TGCAACTGTA ATCACAAAGCC CAGCAACACC AGGGGGACA
ATGAGGGGT CGTGGGGT CTGGATGTGA AGATCGTGA ACCGGGGGT CTGGATGTGA ACGGTGCAT TAGTGTGTGG TICCGACCTGT
203 Y S L S S V V T V P S S L G T Q R Y I C N V N H K P S N T K V D K

FIG. 7B

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2201 AGAAGTTGA GCCCCAACTCT TGTGACAAAAA CTCACACTAG TCCACCCTGT CCAGGACCTG AACTCCCTGGG GGGACCGTCA GTCCTCCCTCT TCCCCCCTAA
TCCTCAACT CGCGTTAGA AACGTTGTT GAGTGATC AGCTGTTT GAGTGATC AGCTGTCAGA GTTCCTGGAC TTGAGGACCC CCCTGGAGT CAGAAGGAGA AGGGGGGTT
237 K V E P K S C D K T H T S P P S P A P E L L G G P S V F L F P P K
^Hinge cys to ser

Hinge cys to ser

2301 ACCDAGGAC ACCCTCATGA TCTCCGGAC CCCCTGGTC ACATGGCTGG TGTTGAGCT GAGGCCACAA GACCCCTGAGG TCAAATTCAA CTGGTAGCT
TGGTTTGTG TGGGAGTACT AGAGGGCTCG GGGACTCCAG TETACGGCAC ACCACCTGCA CTGGGTGCTT CTGGGACTCC AGTCAAGTT GACCATGAC
270 P K D T L M I S R T P E V T C V V D V S H E D P E V K F N W Y V
^Hinge cys to ser

2401 GACGGCGTGG AGGTGCATAA TGCCAAGACA AAGGGGGGG AgGAGGAGTA CAACAGCAG TACCGTGTGG TCAGGCTCTG CACCGAGCT
CTGGCGCAC TCCACGTTT AGGGTCTGT TTCCGGCCC TCTCTGTAT GTCCTGTAT GTTGTGTCG ATGGCACACC AGTGGCACACC GTGGCAGGAC GTGGTCTGTA
303 D G V E V H N A K T K P R E Q Y N S T Y R V V S V L T V L H Q D W

2501 GGCTGAATGG CAAGGAGTAC AAGTGCAGG TCTCCACAA AGCCCTCCCA GCCCCATCG AGAAAACCAT CTCCAAGCC AAAGGGCAGC CCGAGAACCC
CCGACTTACG GTTCTCATG TTACGGTCC AGAGGTGTT TGGGAGGGT CCGGGGTAGC TCTTTGGTA GAGGTTTGGG TTTCGGTGG GGGCTCTGG
337 L N G K E Y K C K V S N K A L P A P I E K T I S K A K G Q P R E P

2601 ACAGGTGTAC ACCCTGCCCA CATCCGGGA AGAGATGACC AAGAACCGG TCAAGCTGAC CTGGCTGTG AAAGGGTCT ATCCAGGGA CATGCCGTG
TGTCCACATG TGGGACGGGG GTAGGGCCCT TCTCTACTGG TTCTGGTCC AGTGGACTG GACGGACAG TTTCCGAAGA TAGGTCGCT GTAGGGGCCAC
370 Q V Y T L P P S R E E M T K N Q V S L T C L V K G F Y P S D I A V

2701 GAGTGGGAGA GCAATGGCA GCGGGAGAAC AACTACAAGA CCACGCCCTCC CGTGGCTGGAC TCCGACGGGT CCTTCTCTCT CTACAGCAAG CTCACCGTGG
CTCACCTCT CGTACCGT CGGGCTCTG TTGATGTTCT GTGCTGGAGG GCACGACCTG AGGCTGCCGA GGAAGGAGGA GATTCGTTG GAGTGGCAC
403 E W E S N G Q P E N N Y K T T P P V L D S D G S F F L Y S K L T V D

2801 ACAAGAGCAG GTGGCAGCAG GGGAACGTC TCTCATGCTC CGTGTGCTG AGGCTCTGC AGAACCACTA CACGGAGAAG AGCCCTCCC TGCTCTCCGG
TGTTCTGTC CACCGTGTG CCGTTGAGA AGAGTACGAG GDACTACGTA CTCCGAGACG TGTGGTGTAT GTGGCTTTC TCGGAGAGGG ACAGAGGCC
437 K S R W Q Q G N V F S C S V M H E A L H N H Y T Q K S L S P G
^Hinge cys to ser

2901 TAAATAGCA TGCGACGGCC CTAGAGTCCC TAAGGCTCGG TTGCGCCGGG GCGTTTTTA TTGTTAACCT ATGTTGACA GCTTATCATC GATAAGGTTT
ATTATTCGT AGGCTGCCG GATCTCAGGG ATTGGAGCC AACGGGGCCC CGCAAAAT AACAAATTGAG TACAAACTGT CGAAATAGTAG CTATTGAAA
470 K O

3001

FIG. 7C

Anti-VEGF VNERIK

Anti-tissue factor

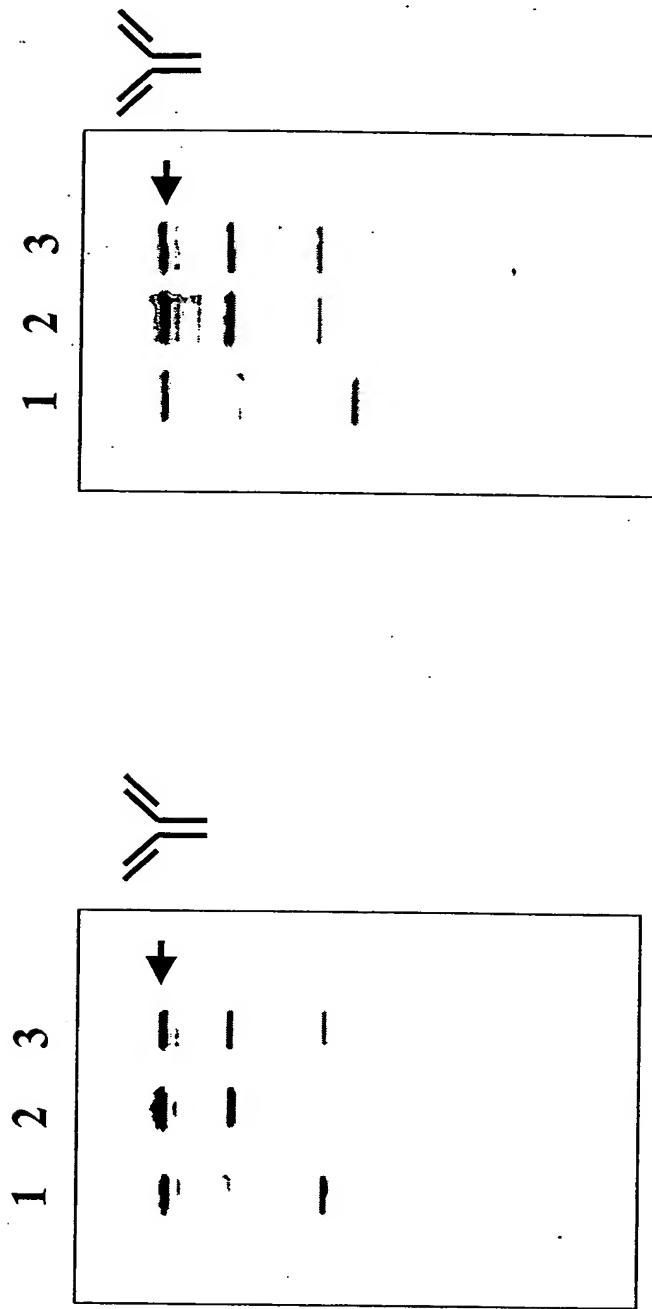


FIG. 8

Anti-tissue factor Anti-VEGF-VNERK

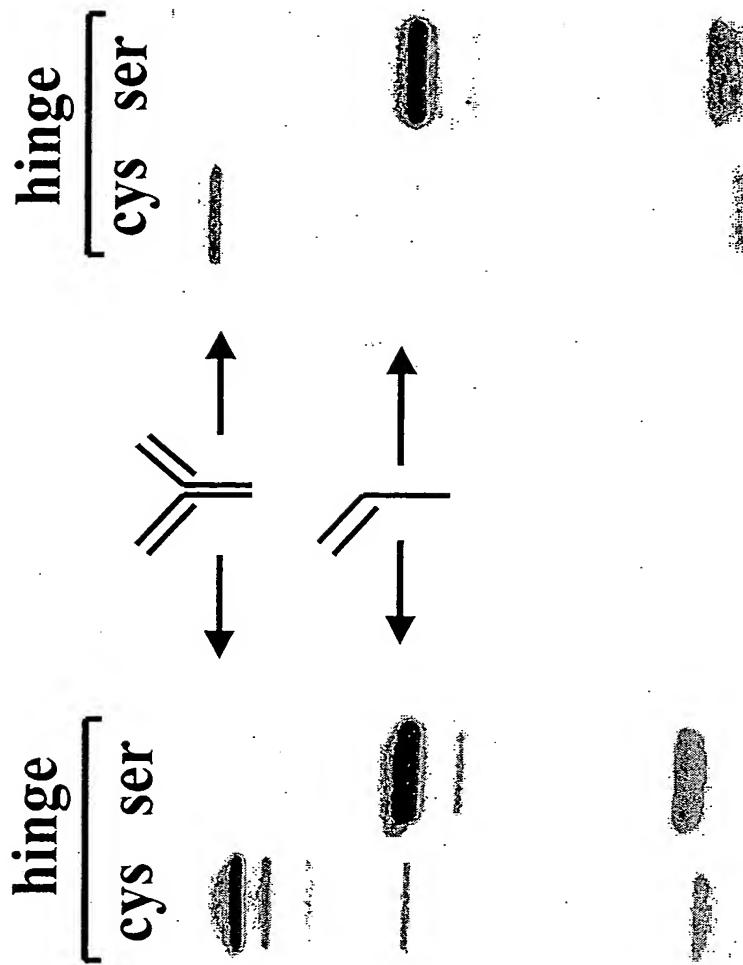


FIG. 9

Anti-VEGF-Y0317

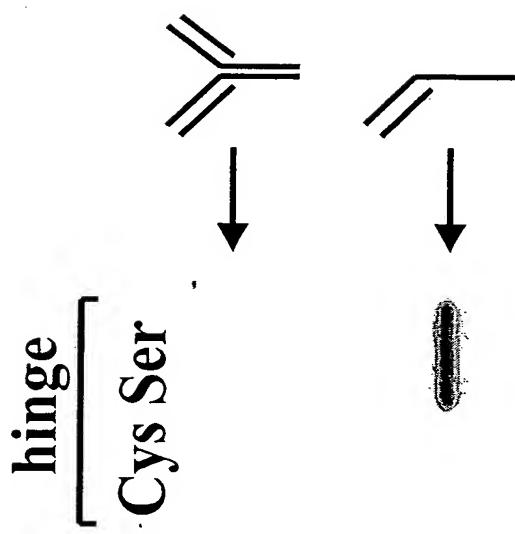


FIG. 10

murine Flt-IgG2b

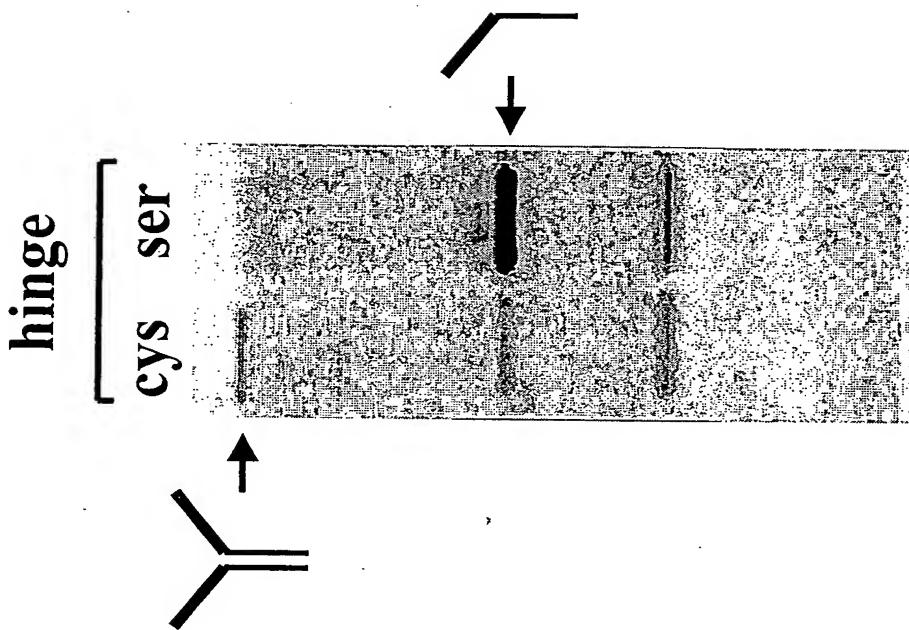


FIG. 11

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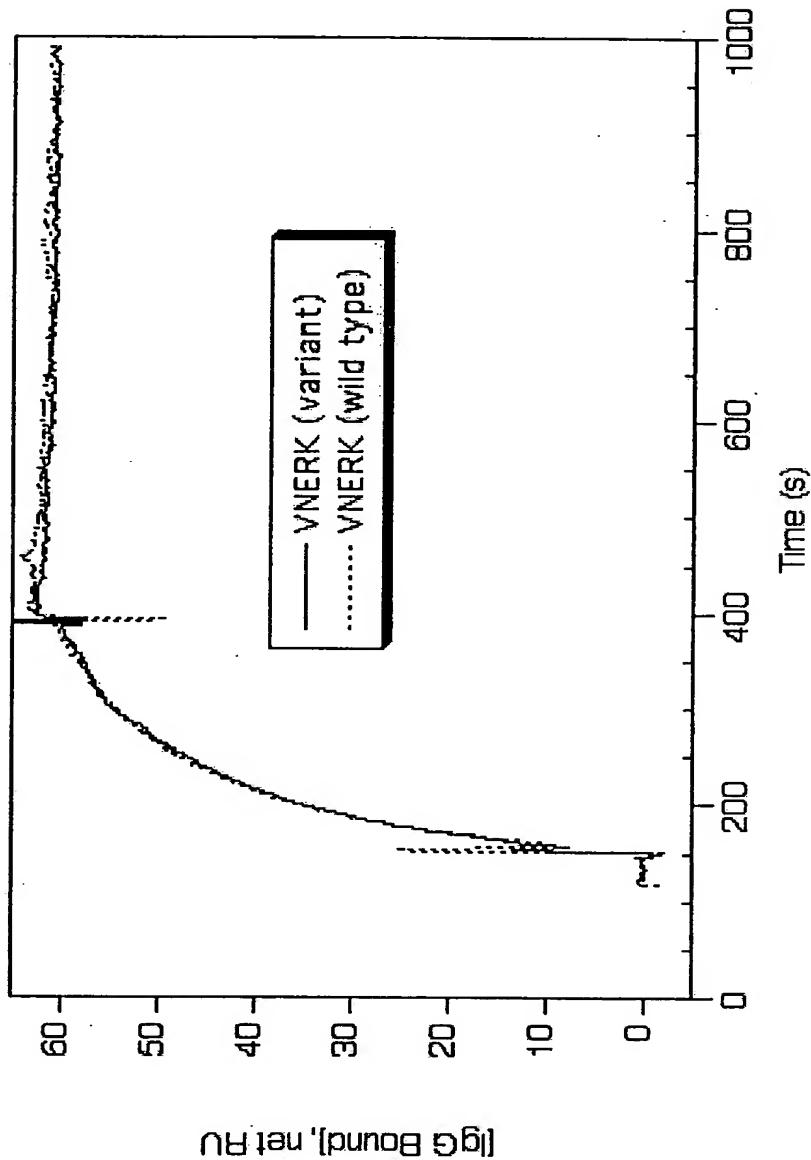


FIG. 12

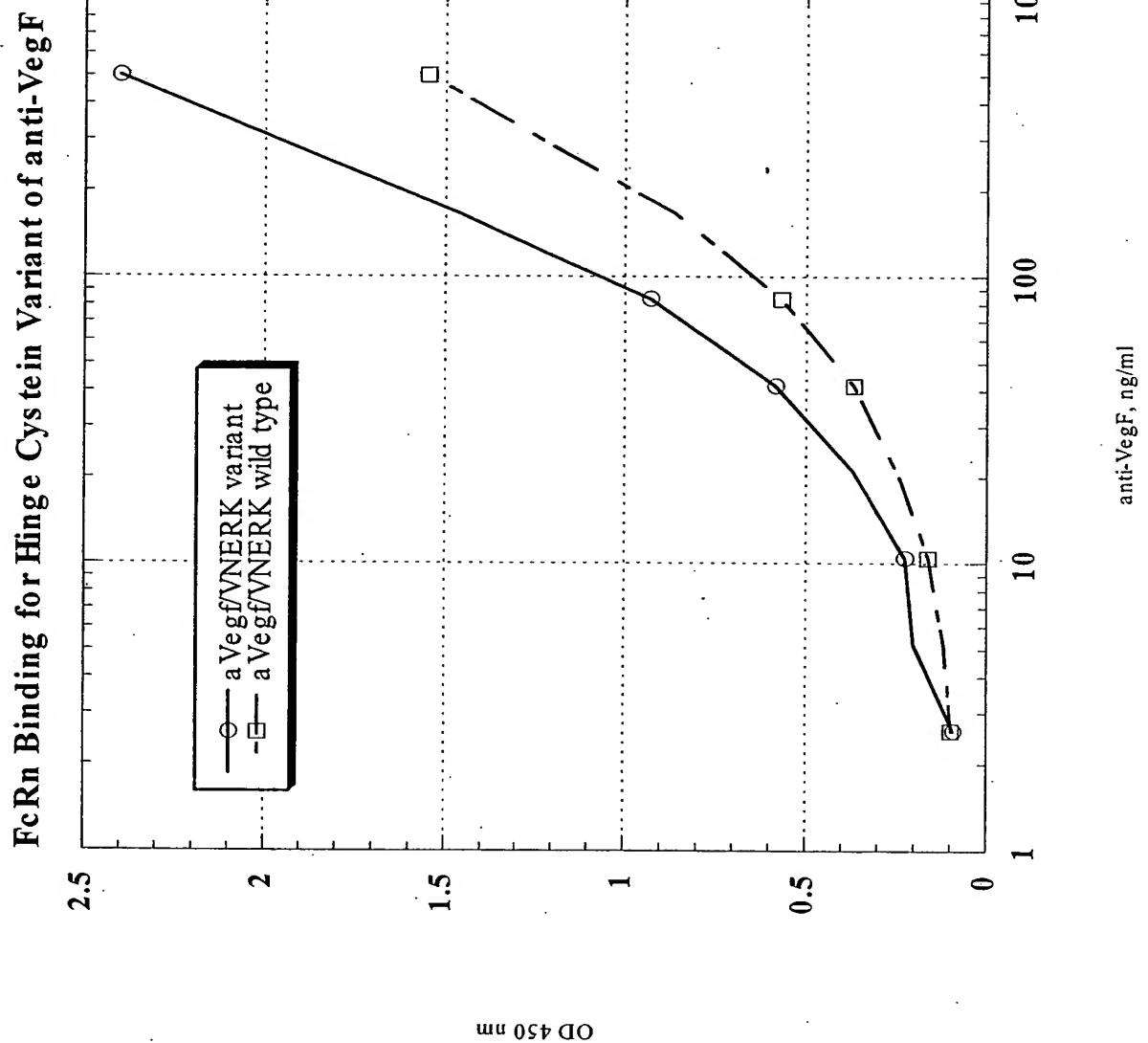


FIG. 13

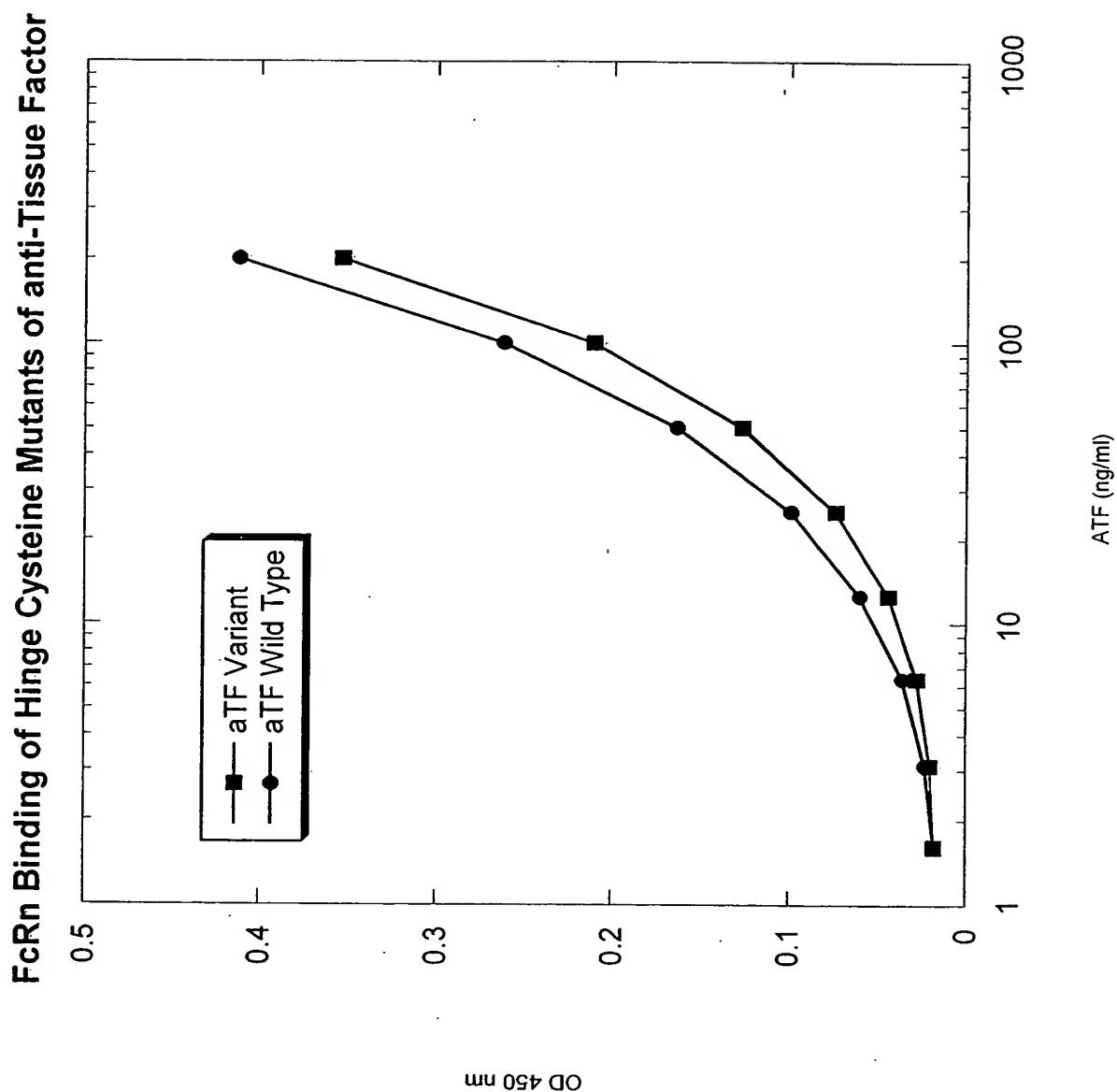


FIG. 14

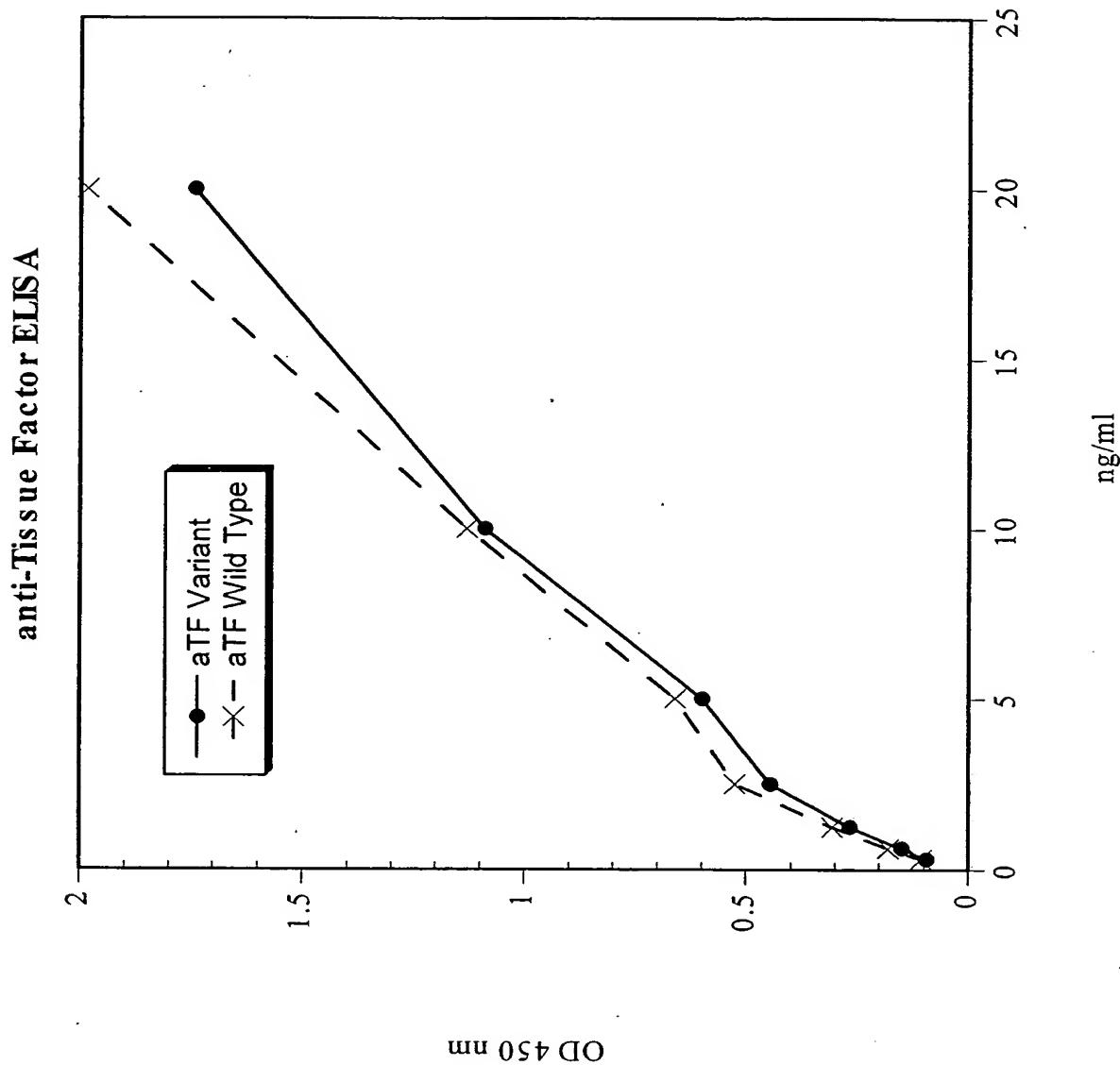


FIG. 15

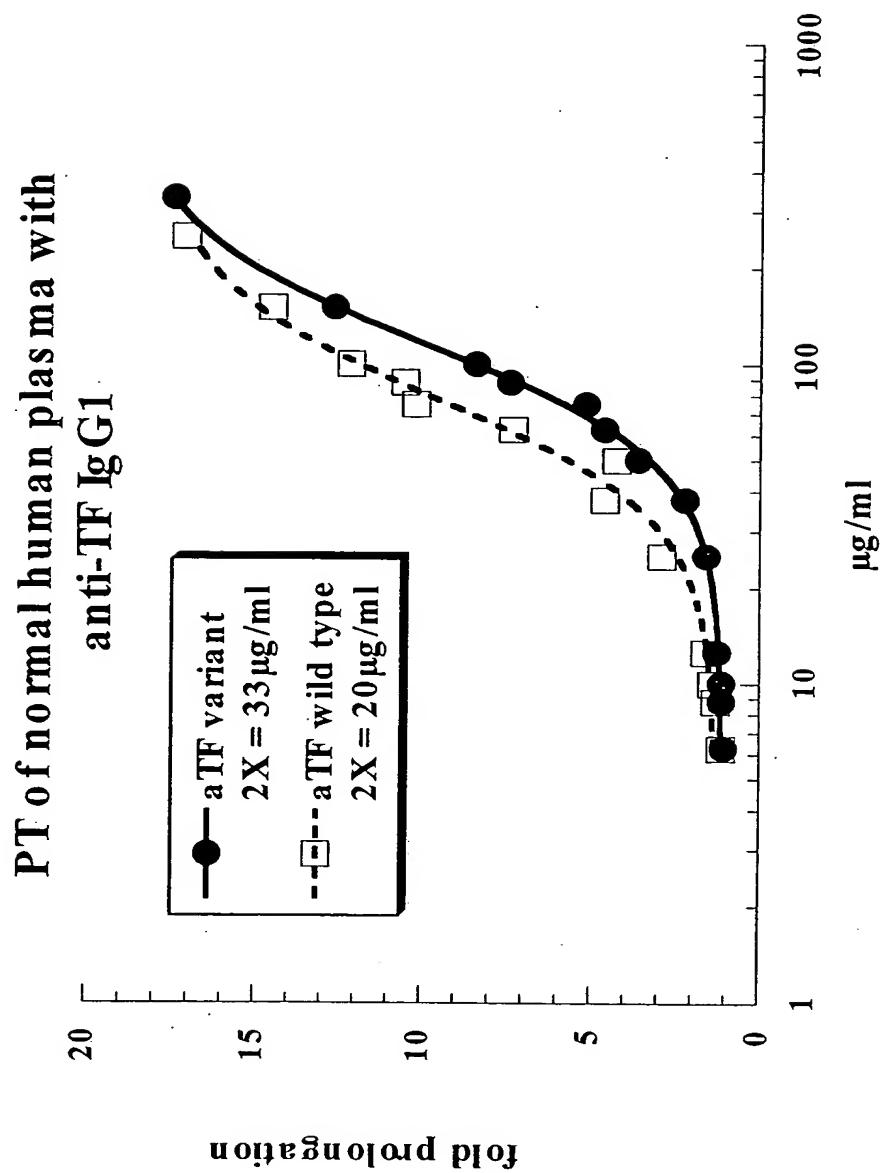


FIG. 16

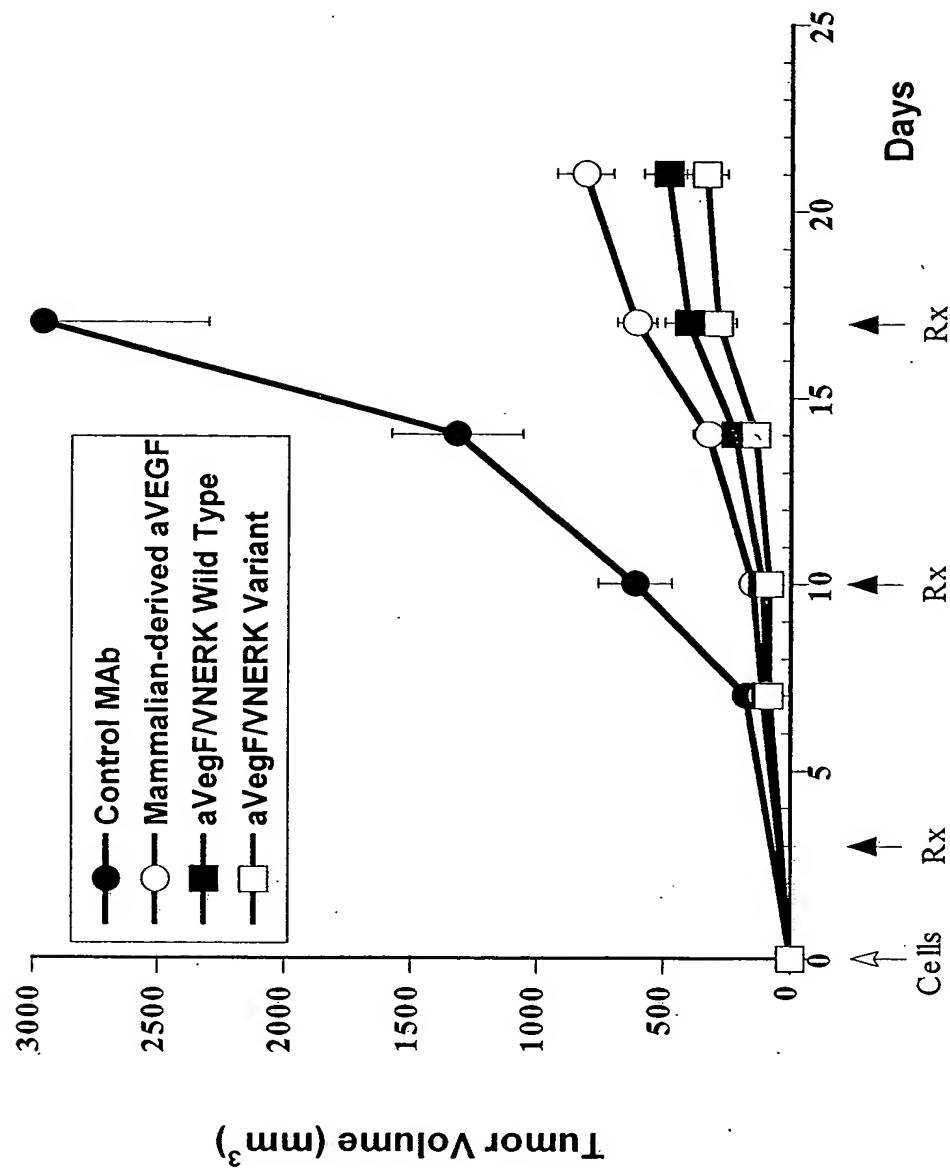


FIG. 17

Inhibition of Growth of A673 Tumors

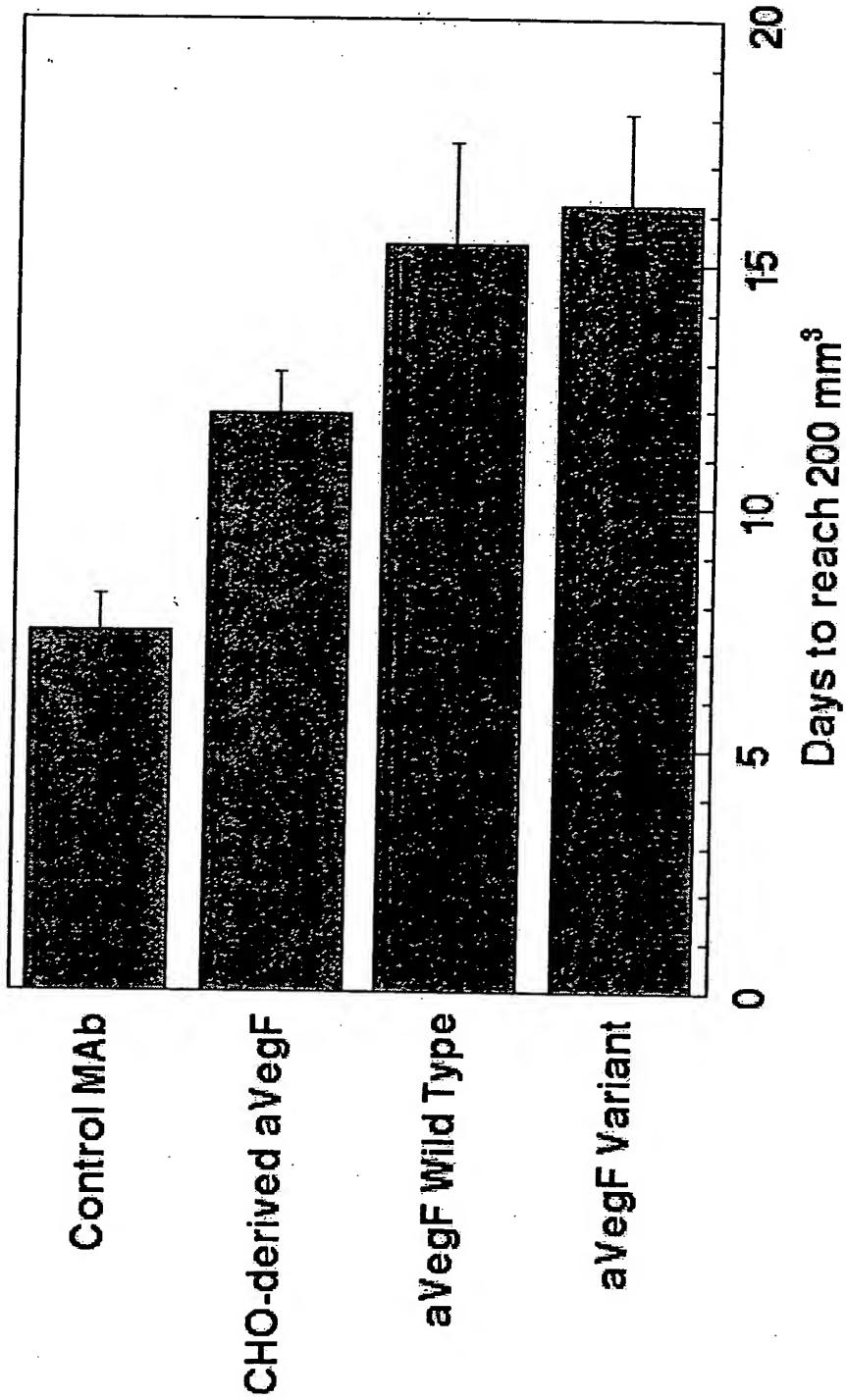


FIG. 18

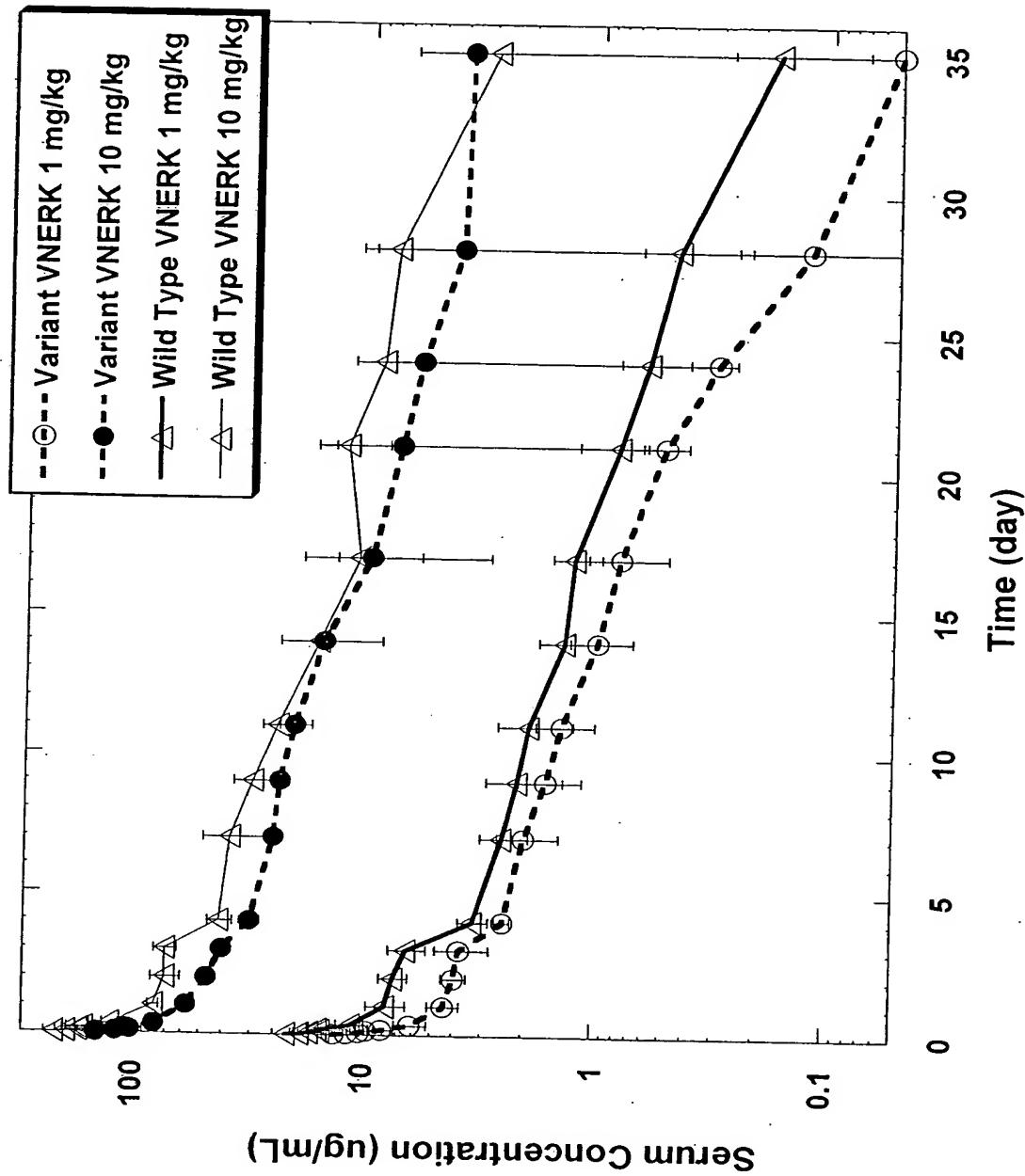


FIG. 19